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ARMY SUSTAINMENT

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Sustaining the Force Forward

Plus:

**Sustainment's
Role in Strategic
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**REINVIGORATING Sustainment
Home Station TRAINING**

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**Rules for Planning
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Pvt. Vivianne Valadez, a motor transport operator with the 579th Forward Support Company, 6th Battalion, 37th Field Artillery Regiment, hooks an ammunition pod to an UH-60 Black Hawk helicopter during sling-load training Nov. 21, 2013, at Camp Mobile, South Korea. (Photo by Staff Sgt. Carlos R. Davis)

“The RSHST [Reinvigorating Sustainment Home Station Training] initiative is essential as we begin to support an Army of preparation.”

*Maj. Gen. Larry D. Wyche
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Reinvigorating Sustainment Home Station Training

Technology will play a large role in a new initiative that will provide Soldiers with training products and tools to improve operational readiness.

■ By Maj. Gen. Larry D. Wyche



“ RSHST leverages the Army’s institutional capabilities to improve operational readiness and will strengthen the link between the institutional and operational forces. ”

The transition from being an Army at war to an Army of preparation requires two critical resources: leader development and training. To support the renewed focus of returning to an expeditionary Army, the sustainment community is moving forward with the Reinvigorating Sustainment Home Station Training (RSHST) initiative.

RSHST leverages the Army’s institutional capabilities to improve operational readiness and will strengthen the link between the institutional and operational forces. RSHST is designed to provide operational and institutional forces with training products and tools to enhance unit home station training opportunities. These resources will allow units to better prepare to sustain decisive action in support of unified land operations.

RSHST is synchronized with Army priorities, training strategies, and doctrine. Efforts for RSHST began by identifying individual military occupational specialty and collective training gaps across the force. After identifying initial requirements, the Combined Arms Support Command staff bundled further solutions and tools into three focus areas: the brigade combat team (BCT), echelons above brigade (EAB), and training support systems (TSS).

BCT Focus Area

Under RSHST’s BCT focus area, training efforts center on providing

operational units with resources to aid daily operations and focus local training events. Operational unit resources are provided on the Sustainment Unit One Stop (SUOS) website. There, tools are separated by brigade, battalion, and company levels and are organized by position, such as battalion executive officer, S-1, and S-4 and brigade support battalion S-3 and support operations officer.

Resources are also organized into relevant functional sections pertaining to logistics, personnel services, health service support, and more. For example, the logistics page is divided into maintenance, supply and services, transportation, and force design sections to ease navigation. Two notable examples of RSHST topics for BCTs are the latest guidance pertaining to the command supply discipline program and resources for developing expeditionary unit deployment capabilities.

Sustainment tools have also been developed for both multifunctional and functional units. The SUOS website has dedicated sections for the combat sustainment support battalion, brigade support battalion, and aviation support battalion, all with ample resources developed through the RSHST initiative. In addition, functional units, such as quartermaster, transportation, maintenance, explosive ordnance disposal, human resources, and finance, are provided tools pertaining to their specific missions.

EAB Focus Area

The EAB focus area of RSHST is dedicated to identifying individual and collective training gaps, capturing lessons learned, and developing exercises to address these requirements. Combat training center (CTC) observations, insights, and lessons learned are captured to prepare units for future CTC rotations and real-world missions.

The SUOS website also contains sections for multifunctional units, such as theater sustainment commands, expeditionary sustainment commands, and sustainment brigades, that are populated with numerous training tasks, lessons learned, estimation tools, and knowledge-sharing resources to improve sustainment formations. These shared resources in conjunction with improved command post exercise functional training will better prepare units for deployment and support major decisive action operations.

TSS Focus Area

RSHST also focuses on bringing improvements to our TSS to enhance the training experience at each home station. By linking multi-echelon home station training to both CTCs and combatant commands, training will be more interactive, realistic, and relevant.

For example, the latest events occurring in the U.S. Africa Command can be integrated into a customized training scenario to better prepare units aligned to that region. RSHST also provides significant updates to TSS training aids, devices, simulators, and simulations. Mock improvised explosive devices, virtual reality welding, driver's training simulators, and digital rifle ranges help to ensure individual, collective, and unit training are as realistic, accessible, and effective as possible.

Organic Logistics Support

Another essential part of RSHST is identifying contracted logistics support capabilities that may be transferred to Army units. Identifying these capabilities will decrease

sustainment costs and reinvigorate field maintenance and unit supply programs. Organic logistics support is essential to maintaining Army readiness, especially during fiscal uncertainty and reduced budgets.

Paired with this effort, warrant officer training is expanding to include advanced technical skills to replace any loss of field service representatives. This alone will save the Army millions of dollars.

Sustainment Unit One Stop website:

http://www.cascom.army.mil/g_staff/g3/SUOS/index.htm.

Despite the reductions in contracted support, contractors are an integral part of our sustainment team. This requires operational contract support training to be included as a part of home station training and nested within sustainment leader education and development. As RSHST continues to be developed, this training will make its way to the SUOS website for use in the entire force.

The SUOS Website

RSHST's tools are useless unless they are in the hands of sustainment leaders and units. To that end, the SUOS website delivers these products directly to Soldiers and units. The site offers relevant, instantly accessible training products for functional individual tasks, training plans for functional and multifunctional sustainment units, and best practices, lessons learned, and links to important resources to assist sustainment organizations across the Army at all levels.

The site is located at http://www.cascom.army.mil/g_staff/g3/SUOS/index.htm. Its content is updated continually and evolves with feedback from the field.

Maintaining Relevance

RSHST is important to maintain-

ing a trained and ready sustainment force within an Army of preparation. By focusing on developing our leaders and training our force, we will be prepared for any possible scenario. Reinvigorating our core sustainment competencies will enhance individual and unit performance and improve collective training events. As RSHST continues to be developed, we must continue to identify any gaps within sustainment home station training and come up with

tailored solutions to address them.

Maintaining training products for the force requires constant feedback to ensure the most accurate and pertinent solutions for our sustainment force are represented. Using reverse collection and analysis team sessions, the Army gains current observations, insights, and lessons learned from deployments and CTC rotations.

This data directly affects the development of future solutions and identifies new gaps in individual and unit training. The update cycle is an essential process that fosters the continued evolution of doctrine, organization, training, materiel, leadership and education, personnel, and facilities.

The RSHST initiative is essential as we begin to support an Army of preparation. The resources developed through this initiative and made available through the SUOS website provide some of the necessary tools to enrich Soldiers and leaders in sustainment formations and beyond.

Maj. Gen. Larry D. Wyche is the commanding general of the Combined Arms Support Command and Sustainment Center of Excellence at Fort Lee, Va.

Management Fads: Beware of the Next Big Thing

■ By Dr. Christopher R. Paparone and George L. Topic Jr.

Since the middle of the 20th century, the Department of Defense has undertaken a wide variety of initiatives to improve the management and control of the ever changing enterprise. Management by objectives (MBO), organizational effectiveness, total quality management (TQM), transformational (“good-to-great”) change management, and of course, the Lean Six Sigma business process engineering methods have risen and fallen over time.

In our combined 70 years of working with the U.S. military, we have seen and been involved in a number of these efforts, which are often heralded as “best practices.” In this article, we will summarize some interesting studies that have been conducted on what we consider management fads. We have not concluded that such ideas and practices do not have value, but it is important to be critical of what they claim to do and be careful of how we use them.

In his 1998 paper, “The Life Cycle of Academic Management Fads,” which was presented at the annual meeting of the Association for the Study of Higher Education, Robert Birnbaum spoke about the negative and positive consequences of management fads on organizations.

The negatives are that “people become cynical and resistant to new ideas, the judgment of leaders is questioned, and funds and energy are seen as being diverted from important institutional activities.”

The positives are that fads “contain a ‘kernel of truth’ that can help institutions reconsider familiar processes. Fads may have important latent functions in cuing attention, promoting action, and increasing the variety nec-

essary for organizational evolution. And even after the fad itself has faded from view, its residual legacy . . . may remain and indirectly influence institutional structure and values. Even when fads fail, they are important.”

We certainly witness these positives and negatives in the Department of Defense, particularly the residual effects of fads. MBO is the basis for our personnel evaluation systems and arguably for campaign planning schemes in Army doctrine. While the Army’s organizational effectiveness program is defunct, the residuals include offsite leadership meetings and command climate surveys—often, but not always, used with a positive effect.

Another interesting piece is the 2001 *Academy of Management Executive* article, “Management Fads: Emergence, Evolution, and Implications for Managers,” by Jane Gibson and Dana Tesone. These scholars conclude that “organizations that were closely associated with popular management fads were more admired by the public and thought to be more innovative. These companies were also perceived as having better managers. The same research confirmed that CEOs [chief executive officers] of these firms also benefited from increased compensation, regardless of corporate performance.” Indeed, we have also seen that defense leaders with “new” ideas are popular because of their perceived innovation.

In “Management Fads: Here Yesterday, Gone Today?” a provocative 2003 report in the *SAM Advanced Management Journal*, Gibson, Tesone, and Charles Blackwell examine five fads that were popular in the second half of the 20th century: MBO, sen-

sitivity training, quality circles, TQM, and self-managed teams. They conclude that these innovations are not really fads but their essential logics morph into other names and technologies as time goes by.

In the researchers’ words, “the fad will either merge into standard management practice in its present or an evolving form (such as MBO) or it will become the roots of the next wave of management fads (such as quality circles).”

This seems to be true in the Defense community. We believe, for example, that the widely used Lean Six Sigma techniques of today can be historically linked to the scientific management ideas of Frederick Taylor (circa 1910), TQM (1980s), and process reengineering (1990s).

We feel that senior logistics leaders may jump from the pan and into the fire too quickly while chasing popular management movements. New management techniques may not last; they may instead be regenerated years later with a new name for the old ideas. Nothing is inherently wrong with the reinvention of old ideas, but it is important to remember where they came from—and why they may have faded.

Dr. Christopher R. Paparone is the dean of the College of Professional and Continuing Education at the Army Logistics University at Fort Lee, Va.

George L. Topic Jr. is a retired Army colonel and the vice director for the Center for Joint and Strategic Logistics at the National Defense University at Fort McNair, Washington, D.C.

Strategic Broadening: An Opportunity for Logisticians

The Chief of Staff of the Army Strategic Studies Group needs logisticians to provide a balanced view of both Army strategic capabilities and challenges.

■ By Lt. Gen. Raymond V. Mason and Col. Richard C. Staats

In 2011, Chief of Staff of the Army (CSA) Gen. Raymond T. Odierno authorized the creation of the Strategic Studies Group. The CSA saw an Army that had focused on “the close fight” with great success for more than a decade. But he also knew that the Army was entering a new era where long-standing operating assumptions needed to be tested.

For the first time since the 1940s, the Army is going to be a largely continental United States-based force. Budget pressures are significant, and over the next 20 years, the United States’ technological advantages could be uncertain in some critical war-fighting areas.

The CSA is responsible for organizing, equipping, and training the Army, and he needed a group of leaders to look outside the budget cycle and beyond the traditional planning horizon to 2030. Identifying future challenges and outlining solutions is the purpose of the CSA Strategic Studies Group. The first annual Strategic Studies Group was formed in the summer of 2012.

What Is the Strategic Studies Group?

The Strategic Studies Group comprises a cohort of creative leaders and thinkers from all military services and the civilian community. The group is a diverse team of officers and civilians with the ability to think critically on a wide range of multifaceted topics.

Each year, the CSA selects a broad governing theme to guide the Stra-

tegic Studies Group’s research. The Strategic Studies Group informs the CSA of its progress throughout the year and produces a summary briefing and written report of the concepts, research results, and recommendations. These products, while focused on the future, could influence the CSA’s decisions on the Army’s near-term and midterm goals.

Why a Logistician?

This is a superb assignment and broadening opportunity for a logistics officer or civilian. The CSA Strategic Studies Group needs logisticians to provide a balanced view of both Army strategic capabilities and challenges. It provides the chance for the logistician to consider a wide variety of topics and viewpoints related to long-term challenges for the Army. The logistics community has been fortunate to have a logistician in each of the first two CSA Strategic Studies Group cohorts.

The first CSA Strategic Studies Group worked on topics ranging from ensuring tactical communications in joint, interagency, intergovernmental, and multinational environments, to recruiting, training, and retaining the best possible Army personnel in 2030, to strengthening the Army’s strategic-lift options.

How to get involved?

The CSA Strategic Studies Group is a one-year assignment for military fellows and is open to all

service members in the grades of O-3 to O-6. For GS-13 to GS-15 civilians, the assignment can be one to three years. Civilians can apply from both the government and private sector. The assignment is located in Arlington, Va.

For more information, visit <http://csa-strategic-studies-group.hqda.pentagon.mil/>.

Lt. Gen. Raymond V. Mason became the Army G-4 in November 2011. He is a career logistician and has served worldwide at every echelon from platoon to the Department of the Army, including several joint tours. Mason has commanded seven times, including three general officer commands.

Col. Richard C. Staats, USAR, was the senior fellow for the inaugural Chief of Staff of the Army Strategic Studies Group. He is currently assigned to the Joint Staff J-5. He is a career logistician and has served worldwide and commanded five times including battalion and brigade commands.

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How Financial Management Is Integral to Mission Command

Following this guide to participating in the operations process ensures that a financial manager's command budget accurately portrays the commander's plan.

■ By Col. Jeffrey Powell

The Army published Army Doctrine Publication (ADP) 6-0, Mission Command, in May 2012. The mission command philosophy and warfighting function defined by ADP 6-0 represent a fundamental shift in how commanders are expected to exercise command and control over their units. This article will discuss why financial managers must actively participate in mission command in order to fulfill their mission.

In the past, financial managers were often referred to as “bean counters.” This nickname was justified given the comptroller's historical focus on executing 99.99 percent of the command's budget and preventing Antideficiency Act violations by double-checking to ensure every resourced requirement met the “purpose, time, and amount” fiscal law litmus test.

Because of this budget execution and regulatory focus, however, the questions most often heard by financial managers are do we have any money and do we have the right color of money for this requirement? Although the comptroller's ability to answer these questions is certainly important, even more critical is the financial manager's ability to effectively build, defend, and execute command budgets. To accomplish these tasks, financial managers must be fully integrated into the operations process (plan, prepare, execute, and assess).

To fully understand the role financial managers should play within

the operations process we must define “budget.” For the purposes of this article, budget is defined as an operation plan written in monetary terms. By fully participating in the operations process, financial managers ensure that the command budget accurately portrays their commander's plan. The best way to understand the financial manager's role in the operations process is to view operations process activities as an integral part of financial management's mission set.

Plan

Planning is the initial activity of the operations process. While planning, the staff assesses current and emerging threats, roles, and missions. Once this assessment is complete, the staff will use guidance from the commander and higher headquarters to develop a plan to mitigate threats and accomplish all assigned roles and missions. Financial managers must work closely with the other staff members to identify the requirements needed to execute the plan, such as personnel, force structure, facilities, equipment, and services.

Prepare

For a financial manager, preparing entails building and defending the command's budget estimate. Once all requirements for mission accomplishment are identified and validated, financial managers must work with programmers, requirements owners, and acquisition pro-

fessionals to build accurate budget estimates by appropriation. If total requirements exceed the command's programmed budget guidance, then it is imperative for financial managers to work with the staff to ensure the commander's highest priority requirements are adequately funded.

Prioritizing requirements ensures that the command budget estimate accurately reflects the commander's intent. Including other members of the staff in the prioritization process ensures transparency in the process and will help foster an atmosphere of mutual trust among the staff.

Once the budget estimate is complete, a financial manager must defend it to the approval authority. To do this effectively, he must have a clear understanding of emerging threats and the command's roles and missions. This intimate knowledge of the command plan should have been gained through active participation during planning.

Execute

Execution begins with approval of the command's budget and the receipt of obligation authority. Properly executing a budget is more than writing checks every time someone asks for funding. The General Funds Enterprise Business System (GFEBS) provides the Army with an integrated real-time view of its core business processes, such as order processing and inventory management.

GFEBS links to the Army's other enterprise resource planning (ERP)

systems (Global Combat Support System–Army, the Logistics Modernization Program, and the Integrated Personnel and Pay System–Army) to provide decision-makers with a common database of accounting, inventory, and property management information.

Army ERP systems facilitate information flow between internal and external decision-makers and stakeholders. This type of information can be used to manage logistics supply chain operations by enabling optimization of inventory levels and delivery routes. Accurate data pulled from the Army's ERP systems can help logisticians segment their inventory items by cost and velocity, build key facilities in the best locations, and ensure all classes of supply are available in the right quantities when and where they are required by supported commanders.

Accurate cost data captured during budget execution enables leaders to make informed financial decisions. Such decisions may be counterintuitive. For example, according to an article by Warren Wynns and Fred McNitt published in the Summer 2013 edition of *Armed Forces Comptroller*, the U.S. Transportation Command used budget execution data to determine that, once the total cost of transportation is added into the equation, purchasing fuel from local vendors at a cost of \$9.18 per gallon costs \$46,000 less per tanker than paying \$3.56 per gallon in Kuwait and flying the fuel into Kandahar.

Assess

Army Doctrine Reference Publication 6–0, Mission Command, lists “assess” as a separate and distinct activity within the operations process. For successful financial managers, however, assessment is a never-ending process that is integrated into planning, preparing, and executing.

During the planning phase, financial managers must closely monitor planned roles, missions, functions, and resourcing requirements. This

is vital because resources should never drive the planning process. Availability of funds and authorization to spend those funds for mission-unique requirements, however, are planning constraints that must be considered.

During the preparation phase, financial managers assist the commander in assessing how to most effectively and efficiently resource re-

analytical tools to determine why operations are more or less costly than expected.

Financial managers should also work with commanders and other staff members to determine if the plan is having anticipated outcomes. If not, why? What branches and sequels of the plan are likely to be pursued in order to produce the desired outcomes? Once the commander

The best way to understand the financial manager's role in the operations process is to view operations process activities as an integral part of financial management's mission set.

quirements. By providing options for how to best resource the command, financial managers aid the commander in making cost-conscious decisions. Why is this important? Because understanding the true cost and benefits of resources (people, equipment, and services) are vital to estimating and accepting prudent risk.

Since a considerable amount of time is likely to have passed since the command developed its budget estimate and receipt of obligation authority, financial managers must complete an immediate assessment of the current plan. Have reduced funding levels made the current plan unfeasible? Have changes made the current plan too costly? On the other hand, has the fiscal environment made the plan cheaper to execute so that excess funding can be reapplied to high-priority unfinanced requirements?

Financial managers must work with requirement owners to ensure their expenditures are in accordance with the budget, and if not, find out why. Bill payers must also be identified for emerging “must fund” requirements.

As the command begins executing the plan, financial managers should look for and analyze unexpected spending patterns. They should use

makes the decision to modify the original plan, financial managers must act quickly to reallocate resources and request additional funding as needed.

The mission command philosophy and warfighting function represent a new way of thinking that makes the legacy philosophy of command and control obsolete. It is no longer sufficient to build a command budget estimate based on historical data, spend money until it is gone, and then ask for more if needed. To be successful in the current operational environment, financial managers must embrace this new philosophy and actively seek to become integral members of command staffs and active participants in the operations process.

Col. Jeffrey Powell is the commandant of the Financial Management School and Chief of the Finance Corps. He holds a bachelor's degree in business administration from the University of Maine, an MBA from Syracuse University, and a master of strategic studies degree from the Army War College. He is a certified defense financial manager with more than 22 years experience as an Army financial manager.

How Modularity Changed Key Developmental Assignments for Field-Grade Sustainers

A support operations officer position was once the preferred assignment for sustainer professional development, but modularity has changed the role of the brigade S-4, making it the more suitable slot for growth.

■ By Lt. Col. Tacildayus Andrews

Much has changed in the way the Army sustains its tactical brigades. In 2005, the Army transformation plan pushed the future force design ahead of schedule to respond to Army Force Generation requirements. In the process, it created capability-based units that are independent, scalable, interchangeable, and quickly deployable.

These new formations decentralized command and control relationships, incorporated direct reporting to a four-star headquarters, and severed the ties to habitual “parent” division headquarters, drastically changing how units received sustainment support.

In the Army of Excellence and Force XXI designs, a division had direct support from its division support command and, in turn, the command’s forward support battalion was aligned with a specific brigade. In the forward support battalion, the commander was responsible for the sustainment of that brigade, and routine plans and oversight were conducted by the support operations officer (SPO). With a 15-man section, the SPO was clearly the heartbeat of the organization and, therefore, the key developmental assignment for field-grade sustainers.

In a modular formation, however, many of the critical duties and responsibilities that were inherent in

the SPO section were pushed up to the brigade logistics support team (BLST) chief and down to the forward support companies (FSCs). Under this construct, the brigade S-4 has become a bridge, performing a wide array of tasks that better prepare field-grade officers to operate at the operational and strategic levels.

The purpose of this article is twofold. The first is to assure field-grade sustainers that serving as the brigade S-4 is not a “soft” key developmental assignment but is, in fact, the right job to prepare them to be operational and strategic sustainers. The second is to highlight to senior leaders the significantly increased level of responsibility and job complexity that now falls on brigade S-4s.

The expanded portfolio of the brigade S-4 requires the officer to function completely at the tactical, operational, and strategic levels. The position is arguably a better training ground for sustainers than an assignment as the brigade combat team (BCT) SPO.

The BLST

With the reach-back support of the Army Sustainment Command and Army Materiel Command, the BLST is critical to maintaining BCT readiness. Depending on the type of BCT, the direct support BLST typically consists of a team of eight to

10 personnel who are always ready to accomplish the following:

- Provide support and expertise for the technical logistics assistance program.
- Coordinate acquisition, logistics, and technology assistance.
- Provide technical support reach-back capability from the BCT to the appropriate Army Materiel Command agency.

In essence, the BLST serves as the go-to subject matter expert for the SPO section, filling the technical capability gap that was resident in the SPO’s duties of “chasing parts” and communicating with item managers and the division materiel management cell.

Forward Support Company

Unlike the headquarters or the A company that operated directly under the control of the legacy forward support battalion, the forward support companies (FSCs) in the brigade support battalion (BSB) are placed in a command or support relationship with their supported combat arms battalions.

Except for professional development, FSC Soldiers rarely return to the BSB. The FSC’s approximately 140 sustainers and maintainers carrying the maneuver battalion’s

second day of supply, and possibly taking up real estate on the maneuver battalion's perimeter, ensure the battalion can execute its mission unhindered by logistics shortfalls. This company could be independent of the BSB since it may be resupplied by a combat service support battalion within the sustainment brigade that directly supports the supported division.

The Brigade S-4

To sustain any unit and allow the maneuver commander the flexibility to conduct unified land operations, all sustainers at every level need to coordinate, collaborate, and work together. When sustainment formations were modularized, the brigade S-4's scope of responsibility increased dramatically, supplanting the BCT SPO as the brigade's principal

logistics integrator. (See figure 1.)

Just as the BLST assumed many of the SPO's traditional functions, so did the brigade S-4. The S-4 became the voice of the BCT with access to tactical, operational, and strategic enablers across the Army and in some cases the Department of Defense.

With a staff of nine, minus the surgeon cell, the brigade S-4's roles

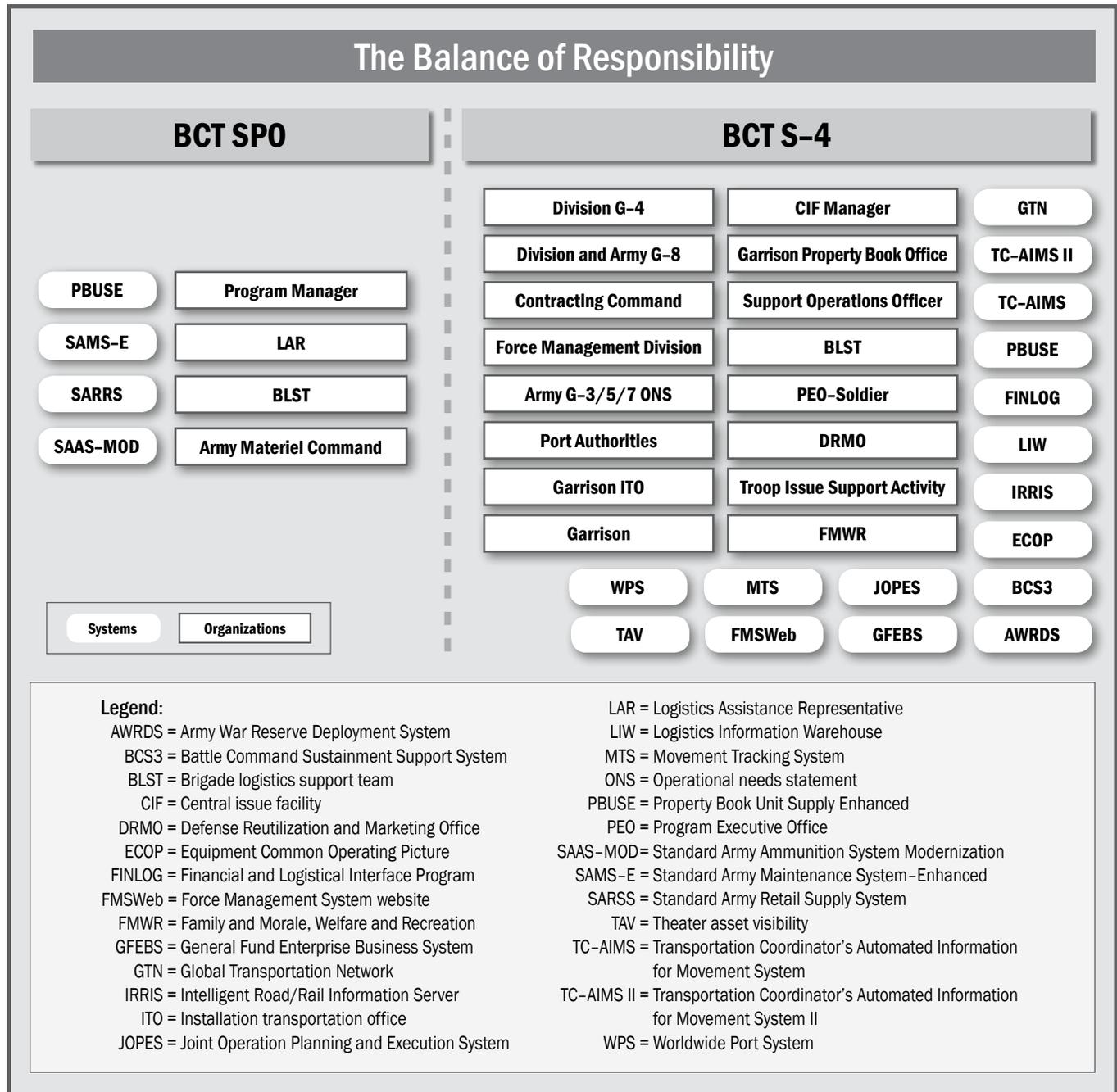


Figure 1. The balance of responsibility between the brigade combat team (BCT) support operations officer (SPO) and BCT S-4.

and responsibilities are numerous and widely varied: running the garrison dining facility, coordinating with Army-level staff for new equipment fielding, managing the Army G-8 automatic reset induction turn-in program, coordinating equipment reset, initiating contract management, and ensuring property and financial accountability.

These responsibilities and tasks are key Army Force Generation milestones. The brigade S-4's direct oversight of these sensitive and critical tasks better prepares field-grade sustainers to easily operate at the operational and strategic levels.

Leaders are creatures of habit, and it may be difficult for them to abandon their old ways and mindsets. However, lessons learned from the past 12 years of persistent conflict require a change in the culture sur-

rounding key developmental assignments for sustainment operations. If leaders change their thinking, it will filter down and throughout the Army.

The way sustainers support the battlefield has changed because of modularity, and the brigade S-4 is the synergistic bridge in this process. The intent to push warfighting functions down to the brigade to make the organization more independent, flexible, and versatile has placed the onus of external support and coordination typically provided by a higher command on the brigade S-4.

The SPO's mission is still critical to the success of the maneuver community, but the position is now less important than the brigade S-4 because of the duties and responsibilities that have been pushed up to the BLST chief and down to the FSCs. Given the weight of many tasks and

responsibilities that are valuable for professional development at the operational and strategic levels, the brigade S-4 position is now the key developmental position for field-grade sustainers.

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Communicating to Enable Decisive Action

The author suggests changing the modified table of organization and equipment for brigade combat teams to improve communication capabilities.

■ By Chief Warrant Officer 3 Juan C. Morales

Technology advancements in recent years have improved the ability of combat units to communicate with logisticians across the area of operations in order to provide them with accurate data needed to sustain combat power.

Two items that have greatly improved communication and enhanced the capabilities of the Army's logistics information systems are the very small aperture terminal (VSAT) and the Combat Service Support Automated Information System Interface (CAISI). However, in a brigade combat team's modified table of organization and equipment (MTOE), the VSAT is found only in maintenance control sections, the support operations office, and the supply support activity. As for the CAISI, distance and terrain limit its use in the brigade.

Communication among logisticians and maintainers has improved, but there are gaps that can be filled to improve reliability, responsiveness, and flexibility.

Communication Problems

In the decisive action rotations that I have observed at the National Training Center at Fort Irwin, Calif., combat repair teams and field maintenance teams often cannot communicate accurately and quickly with maintenance managers at unit maintenance collection points (UMCPs). Logistics information systems and the VSAT are consolidated within the maintenance control section at the UMCP in the field trains.

Not having access to a VSAT re-

quires maintenance managers, combat repair teams (CRTs), and field maintenance teams (FMTs) to communicate using FM radios, which are limited by distance and terrain. Using radios often increases the time it takes to get equipment back into the fight.

Company trains have only one Force XXI Battle Command and Below Blue Force Tracking (FBCB2 BFT) system for extended communications. It is with the company first sergeant and is usually not accessible to CRTs or FMTs.

Recommendation

The Army should change the brigade support battalion's MTOE to add the FBCB2 BFT to the maintenance control section and FMTs in the forward support company and the CRTs in the field maintenance company.

The FBCB2 BFT system is the digitized battle command information system for mounted and dismounted units, which provides real-time information for brigade and below units. It provides a common operational picture with the enhanced ability to request maintenance support, resulting in a more effective and efficient use of repair parts, CRTs, and FMTs.

Adding the capabilities of the FBCB2 BFT system will ultimately provide a reduced footprint for sustainment operations in the operational area and greatly improve the accuracy and reliability of communicating information between CRTs and FMTs and maintenance managers at the UMCPs. This will enable the maintenance managers to make

sound decisions and set priorities of work.

The sustainment warfighting function is essential to conducting operations and providing resources for generating and maintaining combat power to support decisive action, which is the continuous, simultaneous combination of offensive, defensive, and stability operations or defense support of civil authorities. Communicating needs and requirements accurately and quickly is critical to the decisions maintainers and logisticians will make in order to prioritize work and maintain combat power.

Adding the FBCB2 BFT to the MTOE for the maintenance control section, CRTs, and FMTs will enable accurate and timely data communication among the maintenance managers at the UMCPs in the field trains and the maintainers in the company trains, which will reduce equipment downtime and return it to the fight to sustain combat power.

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A commissary meat cutter places packaged meat on the shelf. Ensuring U.S. meat arrives to Soldiers and family members in Europe requires a combination of interagency, international, and joint cooperation. (Photo by Senior Airman Franklin R. Ramos)

Across the Pond: The Strategic Implications of Delivering U.S. Meat to Soldiers and Their Families in Europe

■ By Jacob L. Hall II and Col. Andre J. Briere, USAF

An old logistician's saying goes something like this: "The best logistics is logistics that nobody notices." This is certainly true in most military operations. But sustainment professionals can also have strategic impacts on crises and policies at the highest levels of diplomacy and trade. At the level of interstate deliberation, even relatively minor border clearance, movement, or trade issues can become major points of disagreement and conflict between nations.

This article examines one such international trade disagreement and demonstrates how—through diligent coordination, innovative thinking, and tireless advocacy—U.S. European Command (EUCOM) logisticians

and leaders averted a potentially serious disagreement between the United States and the European Union (EU) and broke a 13-year bureaucratic logjam. In the process of working through this issue, logisticians also learned important food importation lessons of interest to the broader military sustainment community.

Historical Backdrop

In 1997, a widespread epidemic of classical swine fever (CSF) occurred throughout Europe. The first case was reported in January 1997 in Germany. The disease quickly spread to the Netherlands and from there to Italy, Spain, and eventually Belgium.¹ In the wake of this epidemic, the EU was

determined to improve the quantity and quality of information on animal and animal product movements within its borders.

In 2000, the European Commission Directorate General for Health and Consumers grew concerned about ensuring that meat products originating in the United States were arriving only at designated U.S. installations throughout Europe. Some meat products from the United States contain growth hormones and genetically modified organisms, which do not meet European Union standards.² But, the foremost reason for the EU's heightened concern was the recent epidemic of CSF.

Initiating new safety measures with-

in Europe proved relatively simple, but from a U.S. military perspective these new rules posed daunting procedural challenges. U.S. representatives in Brussels and at EUCOM in Germany gradually came to realize that sustainment and resupply of American forces in Europe could be threatened. Over the next 13 years, a succession of working groups, panels, and senior leader engagements ensued in an effort to ensure that meat from the United States continued to flow to troops serving in Europe.

Running Out of Patience and Time

By the time logisticians from the EUCOM Deployment and Distribution Operations Center (EDDOC) began working on the issue in 2011, it had simmered for 11 years and the EU's patience was wearing thin. From the beginning, it was clear that if the U.S. military did not act fast to develop a program to meet EU requirements, a much larger storm would be on the horizon. During the next two years, EUCOM painstakingly developed the framework for improving the quantity and quality of information on meat destined for U.S. forces overseas.

In order to effectively establish a framework for action, the first—and most daunting—challenge was to overcome the legal blocks. Lawyers from multiple U.S. departments and organizations insisted that no governmental organization outside of the Office of the Secretary of Defense (OSD) or the Department of State had the authority to “negotiate” with the EU to resolve this food importation impasse. For years, numerous legal opinions were expressed that all but stopped progress toward an achievable solution.

The chief concern for all legal entities involved was that the United States is a sovereign entity that can only negotiate with other sovereign nations. They held that the EU, while a legislative body, was not recognized as a sovereign

political unit by the U.S. government and therefore could not be negotiated with. To recognize the EU as sovereign would be to throw all existing bilateral status of forces agreements with European nations into legal peril.

Although these concerns were and still remain valid, this was a classic legal Catch-22 situation. EUCOM could not address substantive importation issues with the EU, but importation guidelines were threatening to cut off the supply of meat products to U.S. forces in Europe, Africa, and Southwest Asia.

A Workaround

The metaphorical dam finally broke in the fall of 2012 when the EDDOC teamed with the U.S. Department of Agriculture (USDA) and other European theater stakeholders to develop an innovative strategy to nest EUCOM coordination authorities with the EU under an existing bilateral framework already developed by the USDA. This precluded any peril to existing status of forces agreements and allowed senior leaders from EUCOM to coordinate and recommend a solution to the principal deputy assistant secretary of defense for logistics and materiel readiness as well as the Joint Chiefs of Staff J-4 and J-5.

Ultimately, OSD concurred with EUCOM's solution and determined that, since this issue predominately affected forces serving in the EUCOM area of responsibility, the EUCOM directorate of logistics would serve as the lead agency for developing the framework and policy concerning this issue. While the bureaucratic play-by-play of how EUCOM J-4 cut through this logistical “Gordian knot” is interesting and instructive for sustainment professionals, the remainder of this article focuses on the importation process of class I meat products into the European theater.

The Nuts and Bolts of Meat Importation

Before a shipment of meat leaves the continental United States (CONUS), the USDA Food Safety and Inspection Service (FSIS) certifies and issues health certificates confirming its quality and consumability, just as it does for products destined for local supermarkets in the United States. The FSIS is the public health agency in the USDA responsible for ensuring that the nation's commercial supply of meat, poultry, and egg products is safe, wholesome, and correctly labeled and packaged.³

The USDA is responsible for ensuring that these products meet the requisite criteria to be considered safe for human consumption according to U.S. standards. Once approved, the product can be loaded at the supplier's location and transported to the East Coast for transoceanic movement to European border inspection points (BIPs).

Additionally, the USDA Foreign Agriculture Service (FAS) plays a role in assisting the Department of Defense with importation issues. The FAS enhances export opportunities and global food security by expanding and maintaining access to foreign markets for U.S. agricultural products and by removing trade barriers and enforcing U.S. rights under existing trade agreements.

The FAS works with foreign governments, international organizations, and the Office of the U.S. Trade Representative to establish international standards and rules improving accountability and predictability for agricultural trade.⁴ This interagency cooperation between the USDA and the Department of Defense is important to the interagency dynamics of meat importation.

Across the Pond

The shipping process from CONUS to Europe consists of completing pa-

¹ I. Greiser-Wilke et al., “Molecular Epidemiology of a Large Classical Swine Fever Epidemic in the European Union in 1997–1998,” *Veterinary Microbiology*, Vol. 77, Issues 1–2, Nov. 15, 2000, pp. 17–27.

² Tim Josling et al., “The Beef-Hormone Dispute and its Implications for Trade Policy,” Stanford University, Stanford, Calif., <http://www.pf.uni-lj.si/media/beef.hormones.pdf>, accessed Jan. 28, 2014.

³ “About FSIS,” http://www.fsis.usda.gov/About_Fsis/index.asp, accessed June 9, 2013.

perwork from military and commercial agencies, arranging for transportation, and shipping the products. A key ingredient to enabling a flawless operation is ensuring that all accompanying documentation is accurate. If upon arrival at a BIP the shipment has the correct paperwork and passes the BIP inspection, it is granted entry for onward movement within the EU.

The Military Surface Deployment and Distribution Command's (SD-DC's) 598th Transportation Brigade, headquartered in Sembach, Germany, helps ensure that the paperwork is correct when shipments move via surface mode. The 598th plays a critical role in nearly all surface transportation moves within the European theater, ultimately ensuring that, regardless of location, U.S. personnel have what they need when they need it.

Inside a European BIP

Upon arrival at a BIP, customs inspectors thoroughly examine each document accompanying a shipment. The inspection process consists of a variety of strict methods agreed to by EU authorities. Entry is refused if a shipment destined for U.S. and NATO locations does not meet established criteria.

The EU treats products destined for U.S. and NATO bases differently than those destined for European tables. EU officials are concerned that products not complying with European standards might enter into its stream of commerce. To mitigate these concerns, the EUCOM headquarters, along with the Army's Public Health Command Region-Europe, implemented a program that tracks each shipment arriving in Europe to its final destination.

The Trade Control and Expert System (TRACES) is a trans-European management tool for tracking the movement of meat products destined

for U.S. bases in the EU. This system consolidated and simplified previously existing systems and is a major innovation in improving the management of animal diseases. It also reduces administrative formalities.⁵

Once BIP inspectors approve onward movement of the shipment from the BIP to its final destination, an electronic common veterinary entry document (CVED) is created.⁶ Once the CVED is complete, an electronic version of the document is entered into TRACES and authorities approve the transit of these shipments to U.S. installations throughout Europe.

Once a CVED is created by the BIP, the receiving agency—whether the Defense Commissary Agency, the Army and Air Force Exchange Service, or Family and Morale, Welfare and Recreation—has 30 days to close the shipment out in TRACES. If shipments are not closed within this time frame, inspectors may refuse additional shipments.

End State

The Defense Commissary Agency Central Meat Processing Plant (CMPP) at Ramstein Air Base, Germany, is a key hub for CONUS-origin meat products destined for U.S. forces in Europe. The CMPP opened in March 1998 and processes beef and pork for commissaries in 10 countries throughout Europe. The CMPP cuts, grinds, packages, vacuum seals, and ships more than 175,000 pounds of USDA-approved beef weekly and processes 65,000 pounds of high-quality Bavarian pork each week.⁷ After processing at the CMPP, these items are loaded and transported to U.S. military installations, embassies, and consulates throughout Europe.

The interagency, international, and joint cooperation necessary to ensure

meat products from the United States are available to U.S. forces overseas is truly astonishing. As EUCOM logisticians waded into the complexities of the process, they undoubtedly had at least a small role in ensuring greater harmony and cooperation between the United States and the EU.

Without the professionalism and dedication of each individual and agency involved in this process, many traditional American food items may not be readily accessible to U.S. service members and government personnel serving in the region. So the next time shoppers decide to reach for that small taste of home at any commissary in Europe, maybe they will reflect on what it takes to be able to enjoy these products. For professional logisticians, we hope this brief discussion demonstrates that even seemingly intractable political or diplomatic obstacles can be overcome with collegiality, cooperation, and innovation.

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⁴ "About FAS," <http://www.fas.usda.gov/about-fas>, accessed June 9, 2013.

⁵ "TRACES system," http://europa.eu/legislation_summaries/food_safety/veterinary_checks_and_food_hygiene/f84009_en.htm, accessed June 9, 2013.

⁶ "Suffolk Coastal Port Health," <http://www.porthealth.eu/Import-Process-POAO.htm>, accessed Jan. 23, 2014.

⁷ "Ramstein Central Meat Processing Plant Defense Commissary Agency Europe," http://www.commissaries.com/regions/cmpp_brochure_Oct_08.pdf, accessed June 9, 2013.



Rules for Planning Joint Sustainment

By Mark Solseth

As an instructor for the Command and General Staff Officer Course, I often observe Army officers understandably defaulting to their experience when first learning about or performing sustainment planning during joint practical exercises. Many times, not unexpectedly, they start planning almost solely from an Army perspective, specifying detailed tasks to Army sustainment units by field service and class of supply. I propose a simple construct for them to use when thinking about planning joint sustainment.

The planning construct is quite straightforward: three rules should be followed in sequence. First, sustainment is provided by the service (Army, Air Force, Navy, or Marine Corps) or the Defense Logistics Agency (DLA), which responds to the services. Services plan what they are responsible for: sustaining themselves.

Second, the joint planner must consider exceptions to the first rule (service sustainment) if those exceptions make sense for the operational context at hand. The third rule is that items not covered or that are in conflict with

the first and second rules will be reconciled using primarily joint boards, centers, offices, cells, and groups.

By applying this rather simple construct to the specific operation being planned, planners can think around the complex limitations that the law, policy, and doctrine relating to service and joint sustainment impose.

Above, Soldiers guide humvees onto an Army landing craft utility ship from the modular causeway during a joint logistics exercise. (Photo by Petty Officer 1st Class Elisandro T. Diaz)

Rule 1

The first rule—that sustainment is provided by the service or DLA—is derived from the service responsibilities listed in Title 10 of the U.S. Code and supplemented by directives from the Department of Defense. Based on these laws and directives, all of the services have major commands to support their requirements, including the Army Materiel Command, Air Force Materiel Command, Navy Supply Systems Command, and Marine Corps Logistics Command. They also have service-unique force structures to support operational- and tactical-level sustainment operations.

The above phrase, “or the Defense Logistics Agency, which responds to the services,” is important because the Secretary of Defense may designate a single agency to “provide for the performance of a supply or service activity that is common to more than one military department” when he “determines such action would be more effective, economical, or efficient” (Title 10, chapter 8).

According to its website, DLA is responsible for sourcing and providing “nearly 100 percent of the consumable items America’s military forces need to operate.” So, with the statutory requirement for the services to support themselves and DLA functioning as an important part of the system, the structure and responsibilities are in place for sustaining joint operations.

Since a service is responsible for providing sustainment support to its forces, the Army service component planners in the joint force are responsible for planning the Army’s support in detail. Joint-level planners do not need to specify detailed tasks to Army sustainment units.

Much of the sustainment planning will be done by the services in support of their own requirements. Some sustainment responsibilities will always remain with the service because of their uniqueness (for example, the maintenance of the Air Force’s fighter aircraft or the Army’s Bradley fighting vehicles).

Included in the first rule of joint

logistics planning (that sustainment is provided by the service) is the need to consider sustainment functions assigned through executive agent directives or other instructions to a single service or agency. These sustainment functions include DLA’s responsibilities as the executive agent for subsistence, bulk fuel, construction and barrier materials, medical materiel, and other consumables.

Another example is the Army’s designation as the executive agent for functions such as the management of overland petroleum support, land-based water resources, the Defense mortuary affairs program, and veterinary services. These responsibilities allow for the identification of and the planning for sustainment functions that have been officially tasked to a service or agency and that must be provided to all forces employed in the joint operation.

The executive agent role is new to some students, however, and thinking through this part of the planning construct prompts them to research and find out what support a service or agency needs to plan—not only for itself but also for the other joint forces involved in the operation. Some assumption-based planning is usually required since the capabilities and requirements of other services involved in the operation are not always clear. (The Department of Defense executive agent list can be found at <http://dod-executiveagent.osd.mil/agentlist.aspx>.)

Rule 2

The second rule of the construct, “consider exceptions to the first rule if they make sense,” is deceptively simple, but it is meant to cause the planner to consider exceptions for the specific joint operation being planned. This is the most important area on which the joint sustainment planner should focus.

The planner must consider the type of operation, its location, the forces involved, and the deployment sequence and then consider the sustainment functions that could or

should be provided by a single service or between services. A service may be designated as the lead because that service is the dominant user of sustainment commodities, or because it has the greatest capability to provide the support, or to create efficiency.

Designating a single service as the lead for a sustainment function reduces the overhead created when all services must bring their own capabilities to provide sustainment commonly used by others. Some examples are feeding, retail fuel support, billeting, contracting, maintenance of common vehicles, and medical support. These exceptions to service-only sustainment are not only more efficient; they also potentially allow for a more effective operation by freeing up scarce strategic transportation assets for forces necessary for the decisive phase of the operation.

This rule in joint planning can be the most challenging because each situation is unique and force lists, sequencing, host-nation capabilities, and priorities vary depending on the operational context. However, this rule is the most important for the joint planner because it identifies what the services need to know to sustain the operation being planned.

Services generally have the first rule figured out (they are responsible for supporting themselves) but they need to know what else they are expected to do if the joint force commander identifies additional requirements. Rule 2 lets the service component sustainment planner know what to plan for that is not routine.

For example, while a service must plan support to feed members of its service, it needs to know if it is also feeding another service during the operation. It needs to know if it will be providing medical or base support to members of other services.

Knowing these details allows the service component planners to plan in order to ensure enough capability and capacity are available to provide such support, and it can assist them in setting up the coordination and reporting mechanisms to facilitate

that support.

To decide if a lead service is appropriate, the joint planner considers how to make the operation more efficient and effective rather than just defaulting to the statutory requirements and letting all the services bring what they need to provide their own support. Considering who the dominant user is or who has the most reasonable capability to support other forces, as well as other considerations—such as what is reasonably available in theater from the host nation—allows decisions to be made regarding joint support for this particular operation.

Depending on the maturity of the planning for an operation, some services may have already been designated as a lead service in a plan. At times, services may have coordinated and put in place interservice support agreements (ISSAs), which means they have worked out their requirements between them without being directed to do so by a higher level joint order.

Joint Publication (JP) 4-07, Joint Tactics, Techniques, and Procedures for Common-User Logistics During Joint Operations, lists Army logistics support to U.S. Air Force tactical air control parties (USAF TACPs) as an example of an ISSA. The JP states that “this particular Service Secretariat-level ISSA is a long-term agreement that requires the Army to provide significant common-user logistic support—life support, fuel, selected maintenance, [and] Class IX [repair parts] support to USAF TACPs that are attached to Army tactical units.”

Again, by focusing on this second area of the planning construct, the joint planner will think through and potentially task requirements that are not part of the routine for services in an effort to make the operation as efficient and effective as possible. However, the joint planner will not think of everything, and inevitably friction will occur between the services requiring additional decisions and prioritization, which leads to the third rule of the planning construct.

Rule 3

The third rule of this planning construct is that items not covered or that are in conflict with Rules 1 and 2 are reconciled before and during the operation using joint boards, centers, offices, cells, and groups. Sustainment challenges or conflicts that were not fully anticipated in the planning process will always emerge during the operation.

Doctrine provides for the establishment of a number of boards, centers, offices, cells, and groups. These bodies are designed to serve primarily as coordinating authorities, and they make or recommend decisions to rectify problem areas or reduce the friction that occurs when multiple services are operating in the same area, often competing for the same space and resources.

These bodies have slightly different functions depending on whether the action requires a decision or if it is an enduring requirement. Additionally, they may be formed at different headquarters—some at the geographic command level and others at the subordinate joint force headquarters.

According to JP 1-02, Department of Defense Dictionary of Military and Associated Terms, a board is “an organized group of individuals within a joint force commander’s headquarters, appointed by the commander (or other authority) that meets with the purpose of gaining guidance or decision.” Sustainment-related examples are the joint acquisition requirements (or review) board, the joint facilities utilization board, and the logistics procurement support board.

A center is “an enduring functional organization, with a supporting staff, designed to perform a joint function within a joint force commander’s headquarters” (JP 1-02). Sustainment examples are the joint deployment and distribution operations center, the joint logistics operation center, joint movement center, and the joint patient movement requirements center.

An office is “an enduring organiza-

tion that is formed around a specific function within a joint force commander’s headquarters to coordinate and manage support requirements” (JP 1-02). The joint blood program office, joint medical regulating office, joint mortuary affairs office, and joint area petroleum office are examples of sustainment offices.

A cell is “a subordinate organization formed around a specific process, capability, or activity within a designated larger organization of a joint force commander’s headquarters” (JP 1-02). Examples are a host-nation support coordination cell, a deployment cell, a joint transportation coordination cell, a medical coordination cell, a theater distribution management cell, and an engineer coordination cell.

A group is “a long-standing functional organization that is formed to support a broad function within a joint force commander’s headquarters” (JP 1-02). While specific sustainment-related “groups” are not often established, the joint sustainment planner can influence future operations by participating in joint planning groups, which can be especially important early in the operation when force sequencing decisions are being made.

As a means to resolve problems that will inevitably occur, the joint planner can start setting up or coordinating with boards, centers, offices, cells, and groups early in the planning process. A savvy planner will start developing the battle rhythm of these organizations to facilitate timely decisions and to provide the venue for problem resolution.

Applying the Rules

This scenario may help illustrate the construct described above. Imagine being on a joint staff executing crisis action planning to establish an expeditionary forward operating base from which Army, Air Force, and Naval aircraft will operate in support of a small-scale contingency operation that may also involve humanitarian operations. Looking at a list of core

logistics functions (figure 1) from JP 4-0, Joint Logistics, may help in this discussion.

Considering Rule 1, each service should plan to deploy the sustainment capabilities needed to support itself. Army, Air Force, Navy, and Marine Corps component planners will consider their own force's deployment and determine when and where the supplies, maintenance to support deployed equipment, health service support, and life support for their personnel are required.

If designated as an executive agent, component planners also must consider the capabilities required to support other services. For example, the Army is the executive agent for mortuary affairs and veterinary support, so it needs to plan to bring resources

in those areas for all service forces deploying. As the executive agent responsible for providing bulk petroleum, barrier materials, subsistence, and medical materiel to all the services, DLA is an important partner in the service component planning process.

Applying Rule 2, the joint sustainment planner considers exceptions to Rule 1 and plans to eliminate redundancies where it makes sense for the operation. Assuming that the Air Force is the predominant service for this operation, perhaps it makes sense for the Air Force to provide subsistence and base support for all participating elements.

For efficiency's sake, the Army could deploy the resources to provide medical support to all the ser-

vices and to repair ground vehicles common to all the services. Naval forces might be tasked to provide the construction engineering capability for the task force; this is a requirement all the services will likely have, and all services have engineering capability in their force structure, but tasking it to a single service may reduce redundancy and clarify responsibilities.

The above are simple examples, but the process illustrates where the joint planner's analysis should be focused—not on the service requirements, but on the requirement to make this operation as efficient and effective as possible by reducing unnecessary redundancies.

Understanding that there will be evolving and unanticipated challenges, the planner can apply Rule 3 and start considering the structure of and coordination authorities for the appropriate board, center, office, cell, and group and how these bodies fit it in the task force's battle rhythm.

This framework should help a planner think through the joint planning process. It considers a service's Title 10 responsibility to sustain its own forces, accounts for the combatant commander's plan for service leads in certain areas when it makes sense for efficiency or effectiveness, and takes into consideration that unanticipated requirements and conflicts will arise and will need to be addressed through a board, center, office, cell, or group.

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Core Logistics Functions	
Core Functions	Functional Capabilities
Deployment and Distribution	<ul style="list-style-type: none"> • Move the force • Sustain the force
Supply	<ul style="list-style-type: none"> • Manage supplies and equipment • Inventory management • Manage global supplier networks • Assess global requirements, resources, capabilities, and risks
Maintenance	<ul style="list-style-type: none"> • Depot maintenance operations • Field maintenance operations
Logistics services	<ul style="list-style-type: none"> • Food service • Water and ice service • Contingency base services • Base and installations support • Hygiene services
Operational Contract Support	<ul style="list-style-type: none"> • Contract support integration • Contractor management
Engineering	<ul style="list-style-type: none"> • General engineering • Combat engineering • Geospatial engineering
Health Services	<ul style="list-style-type: none"> • Health service delivery • Force health protection • Health system support

Figure 1. This figure from Joint Publication 4-0, Joint Logistics, depicts the core logistics functions and their functional capabilities.



Enabling Fleet Management With CBM+

■ By David Pack

For life cycle management, Condition-Based Maintenance Plus (CBM+) is a critical link in the evolution of preventive maintenance. As defined by the CBM+ Department of Defense (DOD) Guidebook, CBM+ “is the application and integration of appropriate processes, technologies, and knowledge-based capabilities to improve the reliability and maintenance effectiveness of DOD systems and components.” This capability will help optimize supply chain efficiencies through increased awareness and accuracy.

Maintenance When Needed

CBM+ provides reliability-centered maintenance as an enabler and ensures maintenance is performed when needed rather than on a strict schedule. It employs multiple capability sensors embedded on individual major weapons systems to record fault codes at the source of the problem, which allows analysts and engineers

to predict the real-time health status of their equipment and schedule maintenance before catastrophic failures occur.

The CBM+ process manages the health condition of assets to perform maintenance at the most opportune times, and only when needed, by optimizing the trade-off between maintenance costs and performance costs. This increases availability and reliability while eliminating unnecessary maintenance. Once a platform has exited the CBM process and has been “CBM+ enabled,” fleet managers can make better decisions concerning the level and source of repair.

The ability to accurately forecast a failure trending to a system’s not mission capable status, based on asset usage, helps prevent catastrophic equipment breakdowns.

Enabling Fleet Management

The Army Materiel Command (AMC) has achieved significant suc-

cess in deploying CBM solutions for the Army aviation fleet managed through the Army Aviation and Missile Life Cycle Management Command (LCMC) Logistics Center in Huntsville, Ala. However, while CBM is commonly associated with aviation and ground vehicle platforms, the application of these technologies to the command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR) community is a relatively new concept.

The goal of fleet management for the C4ISR team is to balance acquisition, recapitalization, reset, sustainment, and divestiture decisions across systems’ life cycles. This meets the Army’s equipping and operating requirements, achieves optimized budgets,

Above, Army Communications-Electronics Command contractors conduct maintenance on a tactical quiet generator during condition-based maintenance testing at Sierra Army Depot, Calif.

and communicates critical knowledge to stakeholders.

The C4ISR managers must also have a common operational picture of the fleet, which is a significant and critically important step in fleet management. The activities under CBM+ associated with establishing CBM/CBM+ technical feasibility—the CBM+ process—provide fleet managers with the material they need to baseline technical and document configurations for their supported fleets. [To baseline means to establish a standard metric and configuration.]

In order to baseline the fleet and assess technical feasibility, fleet managers must have visibility of worldwide equipment inventory and readiness status. This includes having knowledge of current configuration, system, and block upgrade information and access to real-time asset information by system, component, and other customer distribution requirements.

It also requires the ability to cross-check the accuracy of the data retrieved from Army authoritative data sources or other data management systems accessible to fleet managers. Other data needed to baseline fleets and determine technical feasibility include planned acquisition fielding, past fielding, system losses, system asset position by force composition, new or replacement systems, joint service requirements, demilitarization preparation and divestiture requirements, data interchange requirements, system modifications, and funding requirements.

The Army Communications-Electronics Command (CECOM) Logistics and Readiness Center (LRC) will baseline its fleets to gain an accurate common operational picture of the fleets, review Army objectives for each fleet, define areas of risk, and develop appropriate risk mitigation by recommending courses of action to achieve an optimized budget. Each of these is an integral and significant outcome of the fleet management process.

CBM+ Background

CECOM LRC initiated its CBM+

program in 2008. It is critical to the implementation of CBM+ technologies and strategies for legacy systems across the C4ISR community. The program is driven by DOD and Army policies, including DOD Instruction 4151.22, CBM+ for Materiel Maintenance; Army Regulation (AR) 70-1, Army Acquisition Policy; AR 750-1, Army Materiel Maintenance Policy; and AR 700-127, Integrated Logistics Support. The intent of these policies is to optimize Army maintenance and supply actions by reducing costs and improving the reliability of C4ISR platforms.

CECOM has aligned its core mission with these Army and DOD policies by making its top priorities unmatched C4ISR capabilities and innovative solutions for the Army of 2020 and beyond. CECOM sustains critical C4ISR assets and replaces legacy systems by identifying and divesting obsolete, excess, and dormant equipment. The CECOM CBM+ approach involves executing a repeatable business process that enables more efficient data collection, transmission, analysis, and decision-making as they relate to a platform's health status.

The process, designed to shift the Army to more proactive and innovative fleet maintenance and planning strategies, is part of an integrated and collaborative effort with partners from the CECOM Software Engineering Center; the Army Logistics Innovation Agency (LIA); the Logistics Support Activity; the Communications-Electronic Research, Development and Engineering Center (CERDEC); the Tobyhanna, Letterkenny, and Sierra Army Depots; Aberdeen Test Center; the Aviation and Missile Research Development and Engineering Center; and the Army Materiel Systems Analysis Activity.

This dedicated team of government agencies has already completed an early operational assessment of CBM+ technology both on tactical quiet generators (TQGs) and the C4ISR command post platform. The results validated a proof of concept and provided successful demonstrations of

CBM+ data collection and transmission strategies across the Common CBM+ Architecture currently under development within CERDEC.

In a parallel initiative, CECOM LRC built a CBM+ execution guide that provides a step-by-step process for identifying and enabling CBM+ program candidates. This process will determine the return on investment and eventually integrate CBM+ into program candidate life cycle management capabilities.

Fleet Management Assessment

CECOM, an AMC LCMC, performed a series of CBM+ assessments. CECOM LRC conducted the assessments over 21 days in November and December 2012 at the Sierra Army Depot in California. The assessments proved the feasibility of condition monitoring and failure prediction from a technical perspective for several platforms operating under conditions mirroring those of Southwest Asia.

Building on lessons learned from several events, the assessment at Sierra Army Depot involved placing commercial off-the-shelf sensors on one MEP-803A TQG, one MEP-805B TQG, one MEP-806B TQG, and one AN/TSQ-232(V)2 tactical command system. CECOM LRC chose to enable the TQG based on its mission-essential equipment status. From a maintenance standpoint, these sensors represent several supportability activities that fleet managers must address.

The goal was to produce CBM+ actionable and parametric data that could be transmitted to various echelons across the Army enterprise, ensuring the timely receipt of information needed to improve operational efficiency. Sensor data was collected from the source and sent in a 5.14 and 7.12 variable message format (VMF), containing actionable information to complete a Department of the Army (DA) Form 5988-E, Equipment Maintenance and Inspection Worksheet.

The data was sent over a wired net-

work to a very small aperture terminal, then transmitted by commercial satellite to a ground station located at the Joint Satellite Communications Engineering Center (JSEC), and finally on to numerous assessment partners across the country. To ensure the equipment was pushed to its limit, the platforms were put through a series of failure tests ranging from airflow and exhaust restrictions to oil systems failures.

The concept of operations for the 21-day event consisted of program partners performing the roles associated with military organizations across the Army supply chain. Analysts at Sierra Army Depot, representing multiple tactical companies of the 3rd Infantry Division, produced Army bulk CBM data (ABCD) files and VMF messages several times per day during the continuous 24/7 operations. CERDEC oversaw the process as the data moved through the Common CBM+ Architecture to JSEC, LIA, and a contractor support facility in Jackson, N.J.

JSEC, housed at Aberdeen Proving Ground, Md., acted as a battalion headquarters. JSEC received the VMF and ABCD messages from individual companies before forwarding them on to the brigade and the Army enterprise.

LIA, located in New Cumberland, Pa., acted as a brigade headquarters. LIA received the VMF and ABCD from the battalion and then initiated the DA Form 5988-E worksheets and twice-daily parts orders. The contractor support facility simulated the role of the logistics support activity and loaded the data into the enterprise level CBM+ repository to perform fleet-level analysis.

The team successfully demonstrated the viability of data transfer and compression techniques that would not unduly strain Army server bandwidth and satellite usage. The CBM+ data arrived intact at each station in a matter of seconds. The process was achieved using the Common Information Management Service (CIMS), which is currently under development through

LIA, to divide the data into echelons of communications links.

The CIMS software takes the information and automatically distributes it so each echelon, be it the company, battalion, brigade, enterprise, or even the platform maintainer, has the right information at the right time without extraneous manual effort. This process ultimately allows real-time and near-real time health monitoring across the Army enterprise.

The value of this capability is simple: it helps optimize supply chain management. Having more accurate and relevant information about a system's health status allows for better supply chain response and faster platform inspections and fault isolations. Moreover, this capability decreases the mean time to repair and mean time between failures and brings assets back into service far more rapidly.

The Way Ahead

Moving forward, the CECOM LRC program has slated additional assessments to mature its CBM+ technology, architecture, and data strategies. These assessments will ensure this effort continues to integrate with the Common CBM+ Architecture. The assessments will also include transmitting data across wireless handheld devices projected for future capability sets.

Concurrently, the CECOM CBM+ Program Management Office (PMO) will provide the C4ISR community with support in the application of CBM+ technology by analyzing assessment information to show increased efficiency in the execution of field-level and sustainment-level maintenance practices. The PMO will also identify any additional candidates for CBM+ systems. The PMO will foster the growth of depot "organic" capability in support of CBM+ embedded sensing systems development, manufacturing, integration, and testing at Tobyhanna Army Depot, Penn.

In total, 12 C4ISR systems will be evaluated. CECOM's focus will be collecting the appropriate documentation and assessing candidacy for

identified C4ISR systems. Furthermore, the C4ISR CBM+ team will continue to function as an integrated unit with the CECOM Software Engineering Center and CERDEC, while continuing to partner with the Army's other LCMCs. This effort is guided by AMC to share best practices and lessons learned from a system of systems perspective.

The holistic approach, technology capability, and business process, paired with stakeholder engagement, provides the Army with a means to connect integrating data systems or sources to the operator and sustainment base while obtaining enterprise-level historical and transactional data that influences operational availability. This fleet-managed information will feed more accurate data into AMC enterprise resource planning systems. It will also establish baselines for predictive analytics from failure data and reduce total ownership costs.

CBM+ fleet information will offer efficiencies across the Army enterprise, stimulating better fleet sustainment and helping our Soldiers perform needed maintenance to operate effectively every day. This will enable the Army to carry out future missions with a more proactive fleet and a maintenance and supportability strategy that is as effective as the joint forces that stand ready. Now, more than ever, CECOM capabilities like CBM+ are the critical link for meeting the needs and ensuring the readiness of our nation's forces.

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Sustainment Role in Strategic Landpower



Soldiers assigned to 240th Quartermaster Supply Company conduct cargo recovery training at the 7th Army Joint Multinational Training Command's Grafenwoehr Training Area, Germany. (Photo by Markus Rauchenberger)

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For strategic landpower to be effective, sustainers must have an active role in its development and execution.

■ By Lt. Col. Robert P. Mann and Capt. Alexander J. Amato

In the January–February issue of *Army Sustainment* magazine, Maj. Gen. Larry Wyche introduced the concept of strategic landpower, discussed its significant effects on the entire logistics enterprise, and briefly mentioned how developing globally responsive sustainment is essential to meeting the needs of strategic landpower. This article will explore the demands strategic landpower places on sustainment and some specific initiatives the sustainment community is developing to meet those demands.

Sustainment has a critical role in the successful execution of strategic landpower and the development of innovative solutions for its support. We fill this role by determining operational reach and allowing, extending, and prolonging operations through robust transportation, supply, maintenance, human resources, finance, and health service support.

These tasks are especially important to implementing strategic landpower, which places demands on sustainment like never before.

Our mission as sustainers is to support “prevent, shape, and win” operations. Strategic landpower focuses on this imperative and seeks to achieve national objectives despite increasingly difficult conditions. Thus, for strategic landpower to be successful, sustainment has critical tasks within the prevent, shape, and win framework that we must not simply execute but excel in accomplishing. These tasks can be analyzed through each section of the framework to guide the development of a future force faced with an ever evolving world.

Prevent, Shape, and Win Framework

Over the past 12 years of war, the Army’s ability to conduct major combat operations against a defined adversary has atrophied. In the

same way, many sustainment skills supporting these operations, such as refuel on the move and joint logistics over-the-shore, have suffered the same fate. Future training events must focus on exercising these skills and positioning the force to influence and deter a larger range of threats.

Prevent. Within “prevent,” training and leader development are the most important considerations. Deterrence is not effective unless potential adversaries are fearful of the capabilities of our forces.

The United States must be able to respond to any threat with an appropriate use of force. This requires constant vigilance, and tough, realistic training that is in tune with events throughout the world. Leaders within our formations must be knowledgeable of current operations, their support, and any possible improvements. They must be prepared to command in any contingency.

To influence these threats and overcome anti-access and area-denial activities foreseen by the strategic landpower task force, we must continue to develop our preparedness for any such possibility. This can be accomplished through robust local training and intense rotational exercises. These events have the added benefits of showing the capabilities of the U.S. armed forces, deterring would-be aggressors, and helping to prevent

new conflicts.

Shape. Success within shaping operations requires strong relationships. By improving relationships, building capacity, and developing the expertise of our partners, we can deter the outbreak of some conflicts and influence the nature of others.

Sustainers can facilitate this by continuing to develop our expeditionary capabilities, contracting experience, and transportation competencies, which can be accomplished through partnering, multinational training events, security cooperation activities, and disaster recovery assistance. Such engagements provide training opportunities throughout the deployment; reception, staging, onward movement, and integration operations; steady state support; and redeployment processes. These events stabilize otherwise unsteady regions, deter adversaries, prepare the force for conflicts, and posture for possible follow-on operations.

Win. If prevention fails, sustainment must be ready to support all combined arms operations to ensure we win our nation’s wars decisively. Strategic landpower does not focus on one type (or size) of conflict; instead it recognizes the possible range of events, such as operations short of war, irregular warfare, contingency operations, and full-scale conventional military operations.

The demands of these conflicts require Army forces to deploy rapidly into any type of environment, overcoming any area denial and anti-access challenges. This concept is vital; projecting power despite these difficulties is a primary mission of the U.S. armed forces. Strategic landpower recognizes the increasing difficulty of access and stresses that the relationships that occur within the land domain are important to overcoming these challenges.

Sustainment must facilitate rapid deployment of our forces to any part of the world, especially on short notice. Being prepared for any scenario includes the possibility of forcible entry, which we have not exercised for many years, instead of relying on forward staging areas.

In a prolonged conflict, sustainers must maintain their proficiency in supporting our forces for an extended duration. Through realistic training, sustainers can use the skills developed during the prevent and shape stages to be competent when it truly matters.

In a major conflict, logisticians must be able to integrate with joint, special operations, interagency, and partner forces to properly conduct unified land operations. This integration will be critical in the future as resources are further constrained and threats become increasingly complex. The best support is seamless and does not detract from the performance of wartime missions.

The Corporate Parallel

Strategic landpower treats each combatant command as a customer seeking a custom solution to influence the “human domain” of its areas. Parallels can be drawn between this concept and real-world applications. Corporations use these techniques in their supply chains to respond rapidly to customer demand.

Instead of holding massive amounts of a specific item of inventory (like a brigade combat team that is prepared for a single type of conflict), these companies hold little inventory and

Advanced Supply Chain	Strategic Landpower Force
Capture customer demand.	Capture region-specific issues.
Reduce inventory of raw materials.	Use smaller units focused on regions.
Constantly exchange information.	Evaluate network.
Produce latest style.	Train using the latest information.
Reduce inventory and overproduction.	Maintain an optimized total Army mix.
Rapidly restock stores.	Rapidly deploy and respond.

Figure 1. This table compares current business practices to strategic landpower practices.

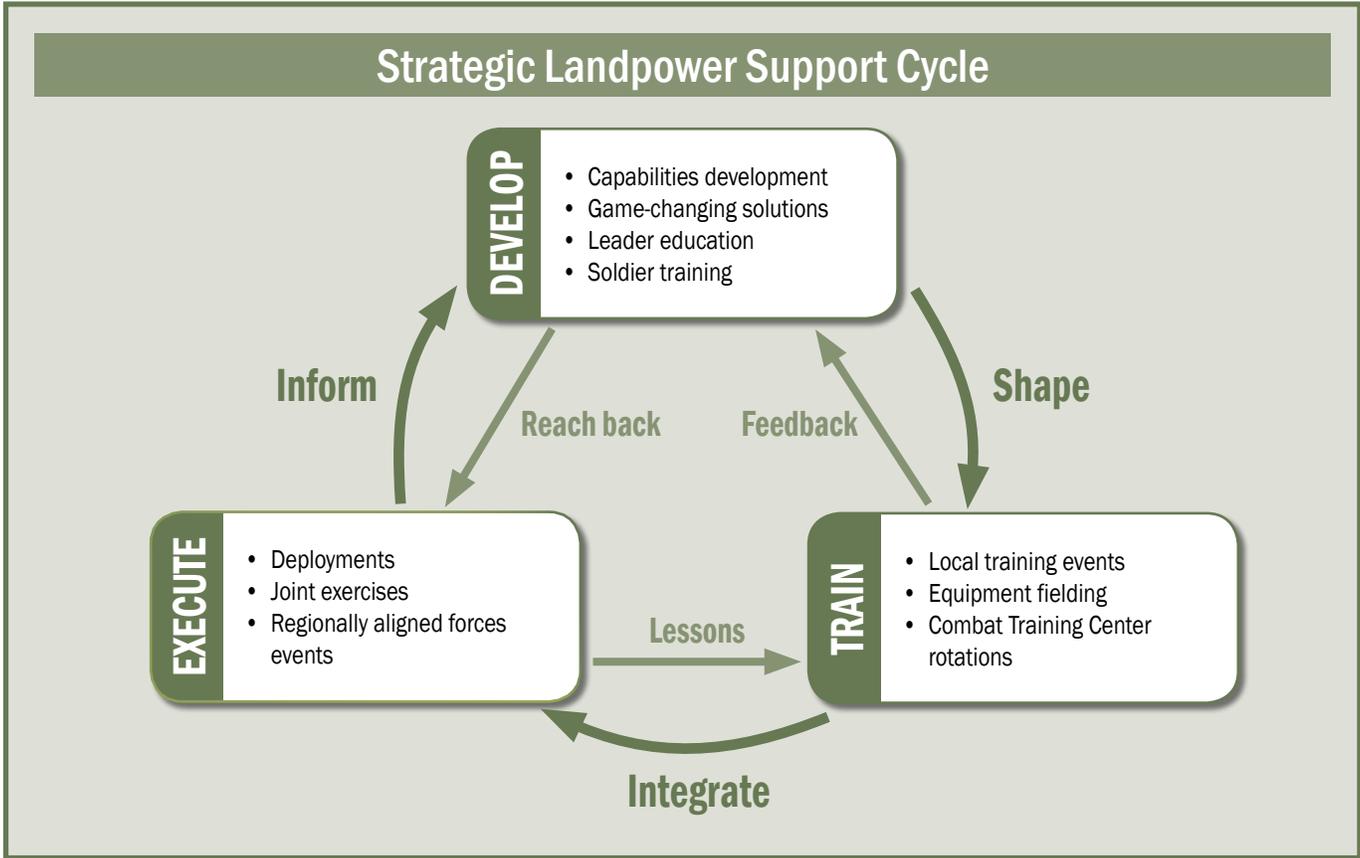


Figure 2. This chart highlights the relationships among organizations that develop capabilities, those that are training, and those that are executing missions.

capture demand in near-real time. This information drives the creation of inventory as it is needed (just like training forces on the latest real-world scenario instead of a contrived situation). Information flow is critical, with production (training) and consumption (force utilization) closely tied together. Finally, the product must be rapidly restocked for sale (as forces must deploy rapidly and respond to any situation). (See figure 1.)

Strategic Landpower Support Cycle

From this idea comes the concept of a strategic landpower support cycle. This cycle must be focused on reducing the time to learn lessons and shaping the force to solve real and current threats, not fictional problems. Such a force is flexible, adaptable to the situation, capable of surging to meet the demands of each combatant commander, and able to focus on a single area because of a larger threat.

Sustainment forces have a key role in developing the concepts for supporting strategic landpower. Forward forces must gather lessons from current events, joint training exercises, deployments, and contingency operations to pass on to sustainers.

Recognizing that our leaders must be adaptable and able to respond to any situation, the institutional Army must develop instruction and solutions to address the issues faced by the forward force. We must transfer this knowledge through robust education and leader development in order to prepare the Army’s future leaders.

Sustainers throughout the Army must anticipate one constant truth: change will occur. By anticipating change, they can react more quickly to the latest information and integrate best practices into their units. Through these actions, units will be better prepared for future events, operations, and conflicts.

Strategic landpower focuses on the desired outcome instead of a specific action. Army Doctrine Reference Publication 3-0, Unified Land Operations, defines landpower as “the ability—by threat, force, or occupation—to gain, sustain, and exploit control over land, resources, and people.” However, the white paper entitled “Strategic Landpower: Winning the Clash of Wills,” defines strategic landpower as “the application of landpower toward achieving overarching national or multinational (alliance or coalition) security objectives.”

The strategic landpower task force stresses the importance of the land domain throughout its messages across a broad range of operations, environments, and conflicts. In short, it will require focused logistics support in order to be successful.

As operations in Iraq and Afghanistan have taught us, successful

strategies focus on human objectives. Influencing these objectives properly lays the groundwork for mission success. Success is not possible without dedicated forces on land. As such, sustainment must have a presence and enable units throughout the area of operations.

Although the Army is the predominant land force, the Marine Corps and special operations forces (SOF) each have their own areas of expertise within the land domain and have a great deal of influence on many activities short of war. Since future engagements and conflicts are sure to be joint, sustainment must be able to support a joint force consisting of any combination of these forces. (See figure 2.)

Globally Responsive Sustainment

The Combined Arms Support Command, the Army's sustainment think tank, has many initiatives that complement strategic landpower and lay the groundwork for its support. Guiding these initiatives is an approach called globally responsive sustainment (GRS). Fulfilling the goals laid out in the GRS white paper is a critical step toward developing robust support for strategic landpower.

The traits of GRS represent the pinnacle of a modern logistics system and the future sustainment enterprise. By developing a sustainment enterprise that is agile and flexible, integrated, protected, trained and ready, precise and responsive, and affordable, we can successfully support any operation within the prevent, shape, and win framework, as required by strategic landpower.

Facilitating proper support for strategic landpower through GRS development will require a great deal of effort. We must focus on training and readiness, preparing for decisive action, revising our modular sustainment structures, integrating and improving our logistics enterprises, and projecting our capabilities globally. We must be proficient in each of these and capable of integration

to support strategic landpower in a predictably joint environment.

Trained and Ready Force Initiatives

Several initiatives are focused on developing a trained and ready force capable of supporting strategic landpower.

Logistics leader development. The logistics leader development strategy focuses on creating adaptive Army logistics leaders. Such leaders will be able to operate in the complex environments accompanying strategic landpower operations. This requires problem solving, effective logistics planning and management, and wisdom in its application by understanding the human element. This initiative is guided by the Logistics Leader Development Board, which is charged with addressing the education and experiences that logisticians of the future will need.

Reinvigorating sustainment home station training (RSHST). The RSHST initiative focuses on improving readiness while easing access to training. RSHST seeks to enhance training opportunities at each major Army installation by exposing units to products and resources available within the institutional Army. This will require sustainment to provide forces that are trained and able to perform their core competencies. Because of the reliance on contracted logistics support, some Soldiers have not performed their military occupational specialties since completing advanced individual training.

Along with core competencies, strategic landpower requires us to be prepared for the entire sliding scale of modern warfare. Units are now training for decisive action missions, and sustainers must focus on forgotten practices and tactics, techniques, and procedures necessary to support these operations.

Regionally aligned forces. Remembering the human element, the forgotten tactics, techniques, and procedures must be analyzed for their compatibility with strategic landpower and effect on partner forces and local populations.

The regionally aligned forces initiative addresses the specific challenges of each combatant command, focusing on specific training requirements and culture for that region.

Sustainment must question if current practices will meet the needs of each regionally aligned unit. In tune with the latest U.S. strategic guidance, sustainment units must train for operations within the Asia-Pacific region, regaining proficiency in skills, such as maritime lines of communication, watercraft operations, and joint logistics over-the-shore.

Meeting Efficiency Requirements

While we analyze our training to ensure it is appropriate, we must also question the way we organize our formations. Strategic landpower will require agile and flexible sustainment units and revisions to our modular structures. Sustainment organizations must be scalable—able to provide support for small training opportunities as well as full-scale unified land operations. The logistics footprint must be analyzed for its impact on the local populace and its efficiency in performing the mission. Through these efforts, operations will have the support they require without compromising effectiveness.

To meet efficiency requirements, strategic landpower demands that our sustainment enterprise be upgraded. Stovepiped and antiquated systems that restrict information flow and hinder productivity must be eliminated.

The Global Combat Support System—Army (GCSS—Army) focuses on integrating many individual logistics systems, such as the Property Book Unit Supply Enhanced, the Standard Army Maintenance System—Enhanced, and the Standard Army Retail Supply System, into a single enterprise resource planning system. This will allow greater visibility of information, quality of data, and detailed capture of logistics requirements.

GCSS—Army will allow for a much more efficient sustainment enter-

prise, which is essential in a fiscally constrained environment with lower force levels. Future iterations of GCSS-Army will integrate transportation, food service, and ammunition capabilities leading to a single authoritative logistics system.

Power Projection

With a continental United States-based force, strategic landpower requires us to be able to project power worldwide. Essential to this effort is the Rapid Expeditionary Deployment Initiative (REDI). REDI is designed to improve and standardize deployment readiness to allow for a full range of military response options.

Within the full range of missions, the possibility of no-notice deployments and humanitarian support requires units to be trained and ready to deploy rapidly. With “deploy and re-deploy” once again a mission essential task, getting to the fight is a critical element of unit preparedness.

Future events, wherever they fall within prevent, shape, and win, will rely on constant integration. For members of the strategic landpower task force, this integration focuses on the Army, the Marine Corps, and SOF. The relationship between conventional forces and SOF and their interdependence are key to the integration.

SOF’s experience with a broad range of missions and interactions in the human domain makes it essential. Integrating with SOF must include developing joint logistics capabilities, pooling resources, and maintaining the ability to surge resources when necessary.

However, our integration is not limited to Marines and SOF; it must include Reserve forces. The Army Total Force Policy, a priority from the secretary of the Army, integrates the Active and Reserve components as a single total force. It seeks to determine the optimal balance of Active and Reserve units, and to leverage the sizable experience of the Reserve component gained over the past 12 years of war.

This effort is critical to sustainment since the bulk of its structure



Soldiers from 1st Theater Sustainment Command climb over a wall during the Dragon First Responder course at the Medical Simulation Training Center at Fort Bragg, N.C. (Photo by Stephenie Tatum)

in located within the Reserve. The integration of Active and Reserve components is essential to strategic landpower since it may require any possible blend of Active and Reserve units, depending on the mission. In addition, the One Army School System initiative is an important step to standardizing leader training and education across components.

Sustainment has a crucial role in the continued development of strategic landpower. Faced with the task of supporting a much larger range of operations in a fiscally constrained environment, logistics leaders must anticipate the demands required by the possible range of missions. We must be not only competent logisticians but also regionally aware and culturally sensitive. For success within strategic landpower, we must support our force and exert positive influence on the human domain.

These initiatives are an important first step. However, all sustainers must weigh how their units, missions, and personnel are affected by strategic

landpower and consider solutions for improving their support for it. Our future leaders will face the Army’s next engagements, and adaptive leaders are essential to ensuring success.

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Sustaining the

By planning and executing realistic training that prepares their units to be part of a ready, relevant strategic landpower force, logistics company commanders will empower junior leaders to make decisions in an expeditionary logistics environment.

■ By Capt. Jon D. Mohundro, Capt. Randall B. Moores, and Capt. Patrick R. O'Reilly

Soldiers of the 1230th Transportation Company conduct convoy tactics, techniques and procedures and hone movement drills to sharpen skills in preparation for the following day's mission at Camp Marmal, Mazar-e-Sharif, Afghanistan. (Photo by Sgt. 1st Class Timothy Lawn)



Force Forward

The Army's shift to mission command from the earlier concepts of battle command and command and control has opened up great opportunities for expeditionary logistics. Using mission command, tactical logisticians can leverage leader development and creative training to have a positive effect on strategic landpower.

Army strategic maneuver in the coming years will require junior logisticians, especially those serving in divisional and brigade separate units, to be more flexible and innovative

than ever. Familiarity with the regions to which their units are aligned will be as important to company-grade logistics officers as it will be to every other commander.

On the company training calendar, leader development will become as important as military occupational specialty (MOS) task development—to the point that units will be task-organized under the leadership of sergeants and lieutenants in remote locations. How should tactical logistics officers approach the evolving issue of supporting for-

ward units in a strategic landpower-focused Army?

Leading Logisticians

For strategic landpower, tailoring logistics to meet the operational needs of supported commanders becomes critical. Just like their combat arms peers, commanders of logistics companies will need to plan and execute realistic training that prepares their subordinate units as part of a ready, relevant strategic landpower force.

Successful commanders will never pass up an opportunity to take their

unit to the field and will overcome the urge to support training from the motor pool. They will encourage Soldiers to learn field craft and help their noncommissioned officers (NCOs) establish assembly area operations instead of sleeping in trucks. The conditions in which our units will operate will be austere and demanding, but knowing how to provide logistics support in unimproved locations will bring mission success.

Unfortunately, many leaders at the tactical level of logistics too often view their assets by function, ignoring the human dimension. Logistics units are typically built around groups of similar MOSs, but future commanders should approach complex issues with a flexible and adaptable crew of junior leaders.

The brigade support battalion and the forward support company (FSC) of the armored brigade combat team and infantry brigade combat team are well-suited for linear warfare. But FSCs in particular are not designed to allow platoons or squads to operate independently. Indeed, when short-term mission teams are necessary (for example, during combat recovery missions in Operations Iraqi Freedom and Enduring Freedom),

they are often ad hoc groups with no formally established “leader-led” relationships.

To support regionally aligned forces’ expeditionary maneuver missions, logistics officers at the company and battalion levels should include the human dimension in their training and operational planning. The subordinate leaders’ talents will need to be considered along with the tasks necessary to support a strategically expeditionary Army that is flexible enough to achieve our nation’s objectives.

Conditions for effective mission command can be set in many ways, and every unique situation will require a unique solution. The following example shows how a 1st Cavalry Division unit developed junior leaders to solve a problem that most likely will reoccur.

The Mission

In late 2011, the 1st Battalion, 5th Cavalry Regiment, 2nd Brigade Combat Team, 1st Cavalry Division (1–5 Cav), was deployed to northern Iraq in support of Operation New Dawn. As the operation drew to a close, 1–5 Cav was to execute a tactical road march from its forward operating base (FOB) to Camp Bueh-

ring, Kuwait, where it would assume the U.S. Forces–Iraq strategic reserve mission. In this role, it was to provide the theater commander with a rapid reaction force to counter violent extremists and insurgents during the withdrawal of U.S. forces from Iraq.

The basic plan was for a rotation of battalions to provide scaled force packages on short notice. These force packages were variable, and the size could be selected by the operational commander based on the threat and location, among other factors.

Units within the on-call battalion that were not part of immediate-response force packages would conduct individual and collective task training. The challenge for tactical-level logisticians was how to provide effective support to numerous dissimilar force packages without encumbering the tactical commander.

At the same time, 1–5 Cav’s FSC was conducting its own rigorous training to prepare its Soldiers and leaders to be part of an expeditionary force. The company provided daily support operations to base units and operations.

The FSC was based on a three-platoon layout of maintainers, distributors, and cooks. However, this design did not provide the flexibility and rapid response that was needed for the mission set.

How could the unit continue to provide seamless logistics support, conduct rigorous training, and give the operational commander the tools he needed at the same time? The best solution was the most obvious one: the leaders should task organize the unit and push decision-making power as low as possible.

The task organization plan, compiled by the company leaders in conjunction with the 1–5 Cav logistics officer (S–4), was to build multifunctional teams with clearly defined leadership relationships. Each force package would have its own attached team, which could be quickly augmented to support larger operational forces.

Support Platoon A					
1LT – Platoon Leader or Executive Officer					
Support Team 1			Support Team 2		
SFC 92G			SFC 88M		
Fuel/Transportation	Maintenance	Food/Sanitation	Fuel/Transportation	Maintenance	Food/Sanitation
SSG 92F	SSG 91B	SSG 92G	SSG 92F	SSG 91M	SSG 92G
SGT 88M	SGT 91M	SGT 92G	SGT 88M	SGT 91B	SGT 92G
SPC 92F	SPC 91F	SPC 92G	SPC 92F	SPC 91K	SPC 92G
SPC 88M	SPC 94E		SPC 88M	SPC 94F	SPC 92G

Legend:

88M = Motor transport operator	94E = Radio and communications security repairer
91B = Wheeled vehicle mechanic	94F = Computer/detection systems repairer
91F = Small arms/artillery repairer	1LT = First lieutenant
91K = Armament repairer	SFC = Sergeant first class
91M = Bradley fighting vehicle system maintainer	SPC = Specialist
92F = Petroleum supply specialist	SSG = Staff sergeant
92G = Food service specialist	

Figure 1. The forward support company had three platoons that followed this design.

Leader Development

The path to successful implementation of the strategy began long before 1–5 Cav deployed in support of Operation New Dawn. When they learned that they would be deploying to Iraq, the S–4 and the FSC’s officers and senior NCOs sat down together to determine what the training plan would be. They devised a campaign plan that would be the road map.

In this campaign plan, the unit outlined areas where it wanted to excel and areas where it would assume risk. Every leader had input and was given a task. This ensured ownership of the task and achievement of a war-ready standard.

By including NCOs and lieutenants in the campaign plan, the company’s leaders hoped to help them see how their roles were critical to success, not just for their platoon but also for the other platoons in the company. In this way, they developed leaders who could train and mentor Soldiers while understanding the battalion’s posture and the reason for their missions.

Throughout the year spent training for the deployment, the FSC volunteered for every tactical training scenario available. It executed gunneries, live-fire exercises, expeditionary-style support lanes, and assembly area occupation and activities.

By conducting realistic, strenuous training as a company (when possible), junior Soldiers developed relationships with NCOs outside of their sections. The NCOs could accurately assess the capabilities and weaknesses of individual Soldiers, which is critical to leading teams outside of normal command and control channels.

The Task Organization Plan

The task organization plan was tested before 1–5 Cav could even begin the road march to Kuwait. Two days before departure from the FOB, the battalion was tasked to leave behind a security element to ensure the U.S. State Department personnel moving into its footprint had time to properly establish and secure the



A 1230th Transportation Company Soldier guides a mine-resistant ambush-protected vehicle into position as the company rehearses convoy tactics, techniques, and procedures before a mission in Afghanistan. (Photo by Sgt. 1st Class Timothy Lawn)

area. The force package, which would consist of one infantry company with enablers, would remain on the base until further notice. The FOB was hours away from the nearest logistics resupply base and outside the normal radio communications range of any unit.

Since the FSC continued to prepare for the road march south, it did not have time to give detailed orders and plans to the team it was leaving behind to support the security force. This initial trial would be the ultimate test of the mission command strategy. Would the sergeant first class team leader, a food service specialist, be up to the task of leading a team built to serve all company capabilities?

Each team would be made up of

12 to 13 Soldiers representing every key function of the company: weapons and electronics maintenance, fuel handling and delivery, field feeding, cargo transportation, tracked and wheeled vehicle maintenance, and combat recovery. (See figure 1.)

The teams would be led by a sergeant first class, and he would have three section chiefs to oversee small teams. These teams would be led by staff sergeants or sergeants, allowing the team chief to embed himself in the supported unit’s headquarters.

The ability to gain and maintain awareness—and to be available to the supported unit’s leaders—was essential to the success of these team chiefs. By maximizing the abilities of subject-matter-expert junior leaders,

the team chief was free to command his element to best support the operational commander. He was unencumbered by minutia, which not only allowed him to oversee the entire team but also made him a valuable subordinate asset to the supported unit's headquarters.

As the FSC had five sergeants first class, one from each of the major functions, the leaders were careful to match personalities, strengths, and weaknesses of team chiefs to subordinate leaders.

For example, the food service section NCO-in-charge was particularly strong in both leadership and technical skills, so he was paired with a less experienced junior NCO to lead the three cooks on his team. The more senior staff sergeants from the field feeding section were paired with other team chiefs to ensure they could provide trustworthy advice to their leader.

The small 13-Soldier team would support the smallest force package, one company—a ratio of one to 12. In the event the second force package, consisting of two companies, was deployed, both support teams would deploy. To ensure unity of command and to better support the operational commanders, this double package would be led by a lieutenant. These roles and relationships were set and rehearsed.

The rest of the company not assigned to a support team was similarly task-organized under the leadership of a fifth sergeant first class. This NCO was responsible for training support for the companies not in ready status, day-to-day support operations at the base, and training for his Soldiers.

Team chiefs whose teams were not in "ready" status planned, executed, and refined training for their teams under the guidance given by their supported commander. Organizing the on-base element under the leadership of the fifth sergeant first class allowed the commander and first sergeant to remain engaged with the operational planning, training man-

agement, and Soldier tasks required to make the plan function.

Executing a Readiness Exercise

When 1-5 Cav officially assumed the strategic reserve mission two days after arriving in Kuwait, it executed an emergency deployment readiness exercise in the middle of the night. The smallest force package was alerted for air deployment and within three hours completed a mission rehearsal, movement by bus to the airfield, and pallet loading.

When the previous battalion executed its emergency deployment readiness exercise, its support company took 11 hours to find its support personnel and equipment, which effectively caused the whole unit to fail the exercise.

But 1-5 Cav's FSC had prepared under a mission command mindset. Its team chiefs had complete command and control over their teams. The support team loaded all supplies, equipment, and Soldiers within two hours. Because the junior leaders knew the mission and intent, the company's leaders were free to provide help where needed without having to micromanage packing lists, roll calls, or timelines.

Mission command enabled the FSC to add true value to the 1-5 Cav during a very stressful time in its deployment. The commander, first sergeant, and executive officer knew they would be unable to personally lead every mission that was to happen simultaneously in Kuwait. Therefore, they had to trust their leader development program and the decisions their geographically isolated leaders would make.

When the small team supporting the force left behind finally rejoined the 1-5 Cav in Kuwait two weeks later, the experiment was validated again. The infantry company's commander, first sergeant, and platoon leaders all went out of their way to say how much help the support team and the engaged, empowered team leader was to their organization. By having all the tools needed and the ability to

maintain contact with the company's leaders, the team leader met the intent of seamless support despite his isolation from the FSC.

The concept was successfully used much later by the same unit in support of Operation Enduring Freedom in Afghanistan. This serves as a proof of concept, showing that the details of the mission are immaterial. As long as leader development is the key theme in training, logistics units will be postured to excel in support of strategic landpower. Once leaders are trained and empowered, their skills do not expire, as shown by the success despite the passage of time.

Dozens of task organization methods could have been used to support the U.S. Forces-Iraq strategic reserve. However, what made the FSC's design so effective was the mission command attitude. The team chiefs had ultimate authority to support their operational commander based on the mission and intent given. They were not required to ask permission, which shortened the flash-to-bang time and gave them ownership of their teams. Adding staff sergeant experts to control the support tasks further enabled the team leaders' success.

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High-explosive ordnance detonates sequentially across the desert floor during ammunition demilitarization operations conducted by the 261st Ordnance Company under the supervision of the 788th Ordnance Company (EOD). (Photos by Capt. Amir Abuakeel)

Demilitarizing Ammunition in Support of Operation New Dawn

Lessons learned from the demilitarization of ammunition during the withdrawal from Iraq may be helpful for the drawdown in Afghanistan.

■ By Capt. Amir Abuakeel

The explosive ordnance disposal (EOD) field has experienced an exponential increase in size and visibility in the last 10 years. The reason for this increase is the enemy's reliance on the improvised explosive device (IED) as the weapon of choice against U.S. and coalition forces. The continued use of IEDs will likely require EOD units to remain focused on counter-

IED operations.

Nonetheless, as the war in Afghanistan continues to drawdown, the EOD force will need to adjust some of its attention from the removal of IEDs, Soviet-era unexploded ordnance, and explosive remnants of war to the demilitarization of the NATO's munitions currently stored in theater. The lessons learned by EOD units in Iraq and Kuwait

from 2010 to 2012 can serve as a basic tool for units currently deployed to Afghanistan.

EOD Mission

A great deal of attention has been cast on EOD's current primary battlefield function: the rendering safe of explosive hazards and the forensic exploitation of IED remnants. [Rendering safe is the process by



which ordnance items are made safe for transport or storage.] However, these were not always EOD's primary functions. When the field was created during World War II, EOD's purpose was twofold: the removal of unexploded ordnance in the form of dudded bombs and shells and the safe disposal or demilitarization of ammunition stocks, friendly and otherwise.

Demilitarization is the process by which the lethal nature of weapons and ammunitions are disabled. Although disposal and demilitarization are not synonymous, they are generally interchangeable when discussing ammunition. This is because munitions retain their destructive

capabilities until their explosive components have been disposed of properly, either by detonation, burning, or chemical processes. Today, an EOD unit's mission essential task list still lists the demilitarization and disposal of class V (ammunition) as one of its core proficiencies.

In a garrison environment, demilitarization usually occurs after the quality assurance specialist, ammunition surveillance (QASAS), who is the chief ammunition specialist at an ammunition storage area (ASA), deems a particular lot of class V unserviceable. This happens after the QASAS has identified damage or has received a disposal directive for a particular Department of Defense





Clockwise from left: Explosive ordnance disposal Soldiers prepare 120-millimeter high-explosive antitank rounds for disposal. Several thousand pounds of Kuwaiti propellant burn across the desert floor; the heat created is intense enough to cause discomfort several hundred feet from the ignition site. A 788th Ordnance Company (EOD) Soldier douses small-arms ammunition with JP-8 fuel in preparation of an open burn operation.



identification code and lot number from the Joint Munitions Command, the life-cycle manager for all conventional munitions within the Department of Defense inventory.

The ammunition is labeled condition code H, meaning the items are condemned, expired, or uneconomical to repair. Afterward the ASA coordinates the transfer of the class V to a local EOD unit or higher level ammunition activity for disposal by open burn or open detonation (OB/OD).

This has been the normal demilitarization process for most code H ammunition since the end of World War II. With the introduction of new environmental mandates, closed disposal techniques (depot-level dis-

assembly or closed loop incinerators) have gradually become the preferred demilitarization method in the continental United States, although OB/OD operations are still conducted on a reduced scale.

The Iraq Drawdown

As Operation New Dawn drew to a close, the Army began planning the removal of thousands of tons of ammunition from ASAs within Iraq. Initially, serviceable munitions were shipped to Kuwait and items deemed unserviceable or uneconomical to retrograde to the continental United States were transported to Forward Operating Base (FOB) Hammer where they were disposed of by OB/OD.

The Army contracted personnel to run the demilitarization at FOB Hammer at a cost of \$10 million to \$11 million per year. The rules of the contract required a throughput of roughly 80 tons of munitions a month in fiscal year (FY) 2010 and 100 tons per month in FY 2011. (Weights were based on safe shipping configurations.)

During FY 2010, the demilitarization operation in Iraq disposed of 970 tons of class V. However, during FY 2011, the disposal teams were only able to demilitarize 560 tons. The main reason for the shortfall was the curtailment of logistics operations following the collapse of the status of forces agreement talks between the U.S. and Iraqi governments. The



Smoke canisters are laid on high-explosive artillery shells before detonation. Used packaging materials are placed atop the explosives, ensuring their destruction.

abrupt end to negotiations required the military to end operations in Iraq and divert all remaining assets, including ammunition stocks, to Kuwait.

The end of disposal operations at FOB Hammer presented the Army with a problem. Expired and unsafe ammunition with no established disposal contract was piling up at supply points in Kuwait. To make matters worse, the Army was unaware of the amount of ammunition its units would bring out of Iraq. Although supplies in major ASAs were easy to track, a significant amount of ammunition was located at the unit level as a Soldier's or weapon system's basic load.

This problem was compounded by the accumulation of class V stocks by line units rotating in and out of Iraq over the years. The vast majority of this ammunition was passed to ASAs or EOD units during amnesty calls and never fully accounted for. Therefore, without an immediate method of demilitarization, the Army would incur serious physical risk and financial costs dealing with prolonged storage of large amounts of ordnance.

Kuwait Demilitarization Operations

U.S. Army Central and the 1st Theater Sustainment Command (TSC) identified a solution through the use of organic Army assets deployed to Kuwait. Under the new plan, ordnance identified for demilitarization was shipped to the ammunition supply point (ASP) at Camp Buehring in northern Kuwait. Once at Buehring, two ordnance companies, the 261st Ordnance Company and the 788th Ordnance Company (EOD), processed and disposed of the ammunition in the following manner:

- As the ASP's managing organization, the 261st received and processed the shipments and placed them in an area at the ASP designated solely for disposal operations.
- The 788th, with materials-handling

support from the 261st and a platoon from the 1st Battalion, 34th Heavy Brigade Combat Team, repackaged the ordnance into specific loadouts on pallets or in tri-wall containers for disposal.

- The 261st loaded the pallets and a forklift onto several palletized load systems and transported the ordnance to a demolition site located at the Udairi Range Complex, west of Buehring.
- At Udairi, the 261st offloaded the ordnance and, under supervision from the 788th, arranged the ammunition into several disposal shots and detonated (or burned) them.

For nine months, from October 2011 through June 2012, the two companies managed the inflow of Code H ammunition. Initially the 788th was disposing of 100 tons per month. By the end of its disposal mission, the organization was capable of handling more than 350 tons per month. This rapid increase in capabilities greatly reduced the code H footprint in Kuwait but created a serious hurdle for the demilitarization operation with regards to ammunition accountability.

For obvious security reasons, ammunition accountability is a zero-defect operation. Initially, the 788th processed the disposal operation's associated paperwork. This included Department of the Army (DA) Form 581, Request for Issue and Turn-in of Ammunition, for ammunition received by the unit and DA Form 5692-R, Ammunition Consumption Certificate, for recording final disposition of the ammunition. Ammunition received by the unit was slated against specific document numbers released by the 1st TSC.

As the unit's operational capabilities grew, so did the paperwork, and more importantly, so did the number of open document numbers. Even with clerical assistance from the 261st, it became apparent that a bottleneck was developing.

To solve the issue, the 1st TSC

assigned two military occupational specialty 89A ammunition clerks (an E-6 and an E-4) to the 788th. Their attachment gave the unit a trained and dedicated ammunition management section capable of reconciling ammunition receipts and consumption reports and freed EOD technicians to assist in the demilitarization, further increasing the unit's output.

By the time the 788th Ordnance Company's replacements arrived in June 2012, the company had processed 2,038 tons of U.S. ordnance and roughly 1,000 tons of Kuwaiti ammunition. This equated to a throughput of 340 tons of ordnance per month, three times greater than the contracted capability at FOB Hammer, providing a cost savings of \$30 million to \$40 million in averted demilitarization contracts.

The vast difference in capabilities can partly be explained by the 1st TSC's ability to leverage several key strengths inherent to the Army's mission in Kuwait, including the stable security environment, developed logistics system, and surplus military manpower. And while most of these characteristics are in short supply in Afghanistan, the basic lessons learned after Operation New Dawn can serve as a rough template for demilitarization operations on large military bases in Afghanistan.

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The 1st TSC has reduced the vehicle and equipment fleet by more than 13,000 pieces, reduced the ammunition in theater by more than 2,500 tons, and scheduled more than 1,000 flights and 40,000 trucks to move equipment around and out of Afghanistan. (Photo by Spc. Aaron Ellerman)

Retrograde Operations Planning and Execution

This article offers suggestions for how to organize and conduct retrograde operations.

■ By Maj. James J. Smith

The year before my battalion's deployment to Afghanistan was the first time our brigade was afforded the opportunity to execute a 12-month training cycle. This allowed team- through brigade-level formations to plan, prepare, execute, and assess their capabilities and limitations. The training cycle allowed the brigade to prepare for every possible scenario it could face.

However, the one mission the battalion did not train for was retrograde

operations. Now that the Army faces a time of extreme fiscal constraints, limited resources, and equipment shortages, this particular operation has become exponentially important.

During my tenure as a battalion executive officer (XO) in Afghanistan, I gained an unexpected appreciation for the transition and retrograde of U.S. forces.

Before we deployed to eastern Afghanistan, the battalion commander made it clear that one of our lines

of effort would involve the transfer of base and life support to the Afghan National Army. This would include our own camp and one combat outpost (COP) that was assigned to one of the battalion's companies. Although I knew this would be difficult, I did not understand the true magnitude of retrograde operations.

Doctrine served as the initial point of research. Army Doctrine Reference Publication (ADRP) 3-90, *Offense and Defense*, describes ret-

rograde as “a defensive task that involves organized movement away from the enemy. The enemy may force these operations, or a commander may execute them voluntarily. The higher commander of the force executing the retrograde must approve the retrograde operation before its initiation in either case. The retrograde is a transitional operation; it is not conducted in isolation. It is part of a larger scheme of maneuver designed to regain the initiative and defeat the enemy.”

Although retrograde is defined in doctrine, the type of retrograde operations taking place in Afghanistan are not described in field manuals or practiced during predeployment training cycles. The closest event to a practical exercise is conducted during the redeployment phase of a combat training center when units are feverishly attempting to clean and turn-in equipment that was assigned for the rotation.

Nevertheless, retrograde operations are critical. I believe that all officers should have the opportunity to understand and prepare their units for when they are required to reduce and transfer their respective areas of operation before they redeploy.

The purpose of this article is to provide a modern perspective of retrograde operations while using personal experience at the battalion level to serve as a prescriptive case study. The article describes the challenges of retrograde and provides recommendations through a list of topics and questions that our unit attempted to understand and solve through a combination of discovery, trial and error, and common sense.

Where Does All This Stuff Go?

Massing and synchronizing the resources needed to reduce our footprint was critical to the success of our retrograde mission since the unit replacing us was designed to train indigenous forces, not remove massive quantities of materiel. The battalion's long-range plan allowed the staff to analyze retrograde operations in de-

tail in order to provide greater clarity of how to achieve the commander's objective.

The retrograde focus included removing equipment no longer necessary that had accumulated over the previous years because of tactical necessity. Before this equipment was loaded and shipped to various locations, we had to separate it into the following categories: scrap metal, defense reutilization and marketing office (DRMO), and retro-sort equipment.

Scrap metal. The large quantities of scrap metal that accumulated over 10 years of combat operations challenged units in their efforts to reduce their footprints. How do you get rid of all this scrap metal? Logistics planners have identified the need for special mobile teams to assist units in identifying and removing scrap metal.

For example, the expeditionary disposal remediation team is composed of Navy seamen and civilian contractors who travel to COPs and forward operating bases (FOBs). They coordinate with local contractors for the efficient sale and removal of scrap metal.

In one case, the expeditionary disposal remediation team disposed of more than 200,000 pounds of scrap metal while teaching our Soldiers how to remove scrap and providing the local contractor with points of contacts. This allowed for decentralization and the safe and expeditious removal of a major point of retrograde friction.

DRMO. Unusable equipment that could not be repaired or reintegrated to the Army supply system was designated for the DRMO. These items spanned across all classes of supply but were primarily class II (general supplies, mostly consisting of printers, computer monitors, and desk furniture), class VII (major end items such as vehicles), and class IX (repair parts). This also included a large amount of life-support items, such as air conditioning units, electrical units, and water heaters that had reached or exceeded their oper-

ational lifespan.

Retro-sort equipment. This was the most important category, consisting of materiel that could be reintegrated into the Army supply system. Items in this category included vehicles, vehicle parts, office equipment, weapons, weapon parts, communications equipment, office supplies, and morale, welfare, and recreation equipment.

This equipment must be reintegrated for future training in garrison environments, especially during a period of fiscal austerity. The process for transferring the items back into the Army's supply system is basic; however, the outcome is crucial.

The initial stage of this process is simple. Conduct a reconnaissance of the area of responsibility. Become intimately familiar with storage locations on COPs and FOBs. Inspect every container and workspace. To help discover lost items, ask leaders questions about their areas of responsibility. Storage containers accumulate over time and may end up not being passed between rotational units. Failing to pass the storage containers between rotating units causes a surfeit of equipment in theater.

Leader Roles in Retrograde Operations

Leader involvement is most critical for ensuring a clear understanding of retrograde operations.

Retrograde operations are most efficient when unit leaders are familiar with the many duties of effective retrograde operations. One method to accomplish this is to designate the battalion XO to lead retrograde efforts. This allows the battalion commander and battalion operations officer to focus primarily on security and the Afghan National Security Forces (ANSF) development line of operation.

Tactical and logistics synchronization is essential, though. Every night (except Sunday) the operations officer (S-3) synchronized retrograde operations in conjunction with night operations during the battalion operational synchronization meeting. The

logistics officer (S-4) and an assistant operations planner synchronized the planning and assessment of retrograde operations to ensure that logistics operations were nested with the commander's decisive operation of ANSF development.

This allowed for the simultaneous and successful execution of each of the commander's lines of operation. The overall goal was to continue retrograde operations without negatively influencing the battalion's main effort of developing ANSF capabilities.

Battalion-Level Responsibilities

At the battalion level, we divided leader responsibilities among the XO, the S-4, and an assistant planner from the S-3.

Battalion XO. The battalion XO

should approach retrograde as he would a tactical operation. The XO's most important task is to understand the operation's end state first and then develop a problem statement by answering this question: how can you feasibly achieve your outcomes given the resources available? This begins on day one by developing a detailed understanding during relief-in-place operations.

Conducting a thorough reconnaissance provides the XO with an understanding of the problem and allows him to develop realistic outcomes for his team. Again, the operation must support the battalion commander's tactical objectives first. It is critical for the XO to understand the complexity of the problem statement in order to effectively communicate the out-

comes to the staff. This helps the staff develop courses of action that are nested with the battalion commander's objectives.

Figure 1 is an example of how we approached the battalion commander's objectives and then further refined the outcomes for our battalion. We divided our nine-month deployment into three 90-day blocks and developed outcomes at the battalion level. These outcomes were further refined by each company XO and then briefed weekly during our battalion logistics synchronization meeting.

Battalion S-4. The S-4 is similar to the chief of operations in a tactical sense. He maintains the status of day-to-day retrograde operations. He tracks the progress, coordinates assets within his section, communi-

	Phase 1	Phase 2	Phase 3	End State
Operation Clean Sweep	Identify non-mission essential TPE/ excess non-property book items.	Turn in all excess class I, V, and VIII.	Turn in excess combat vehicles.	Equipment is task organized for brigade and squadron adviser and SECFOR teams.
Container Consolidation	Identify excess containers, not on PB.	25% Reduction of Fluor services.	All excess containers removed from Camp Clark.	Excess troop equipment is turned into the BAF and FOB Salerno RPAT yard, SSA, and FSR.
DRMO, Retro-Sort, Scrap	Request EDRT team.	Complete removal of DRMO, retro-sort and scrap metal.	Category "V" cable clean-up (Internet cable).	Retrograde conditions are set for follow-on unit and ready to transfer the FOB to ANA forces NLT Nov. 30, 2013.
	Nominate TPE items for turn-in, add to TPE planner, disposition orders, turn-in to RPAT.	Empty class IX out of containers and turn in.	Request TMRs for non-property book, DRMO, and retro-sort for turn in.	
	Monthly container inspection by SQND XO, troop XO, and SQDN UMO.			
	Clear Camp Clark junk yard.			

<p>Legend</p> <p>ANA = Afghan National Army BAF = Bagram Airfield DRMO = Defense Reutilization and Marketing Office EDRT = Expeditionary disposal remediation team FOB = Forward operating base FSR = Field service representative NLT = No later than PB = Property book</p>	<p>RPAT = Redistribution property accountability team SECFOR = Security force SSA = Supply support activity SQDN = Squadron TPE = Theater-provided equipment TMR = Transportation movement release UMO = Unit movement officer XO = Executive officer</p>
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Figure 1. A battalion's planning outcomes over a nine-month period.

cates with other logistics officers, and keeps the brigade logistics officer informed of the battalion's progress. He also serves as an adviser to the company XO's by coordinating necessary resources for the reduction of their equipment.

Battalion S-3 assistant planner. An assistant planner from the battalion S-3 was critical in synchronizing retrograde operations with the operations schedule. The assistant planner also served as an adviser in planning future logistics operations. A Captains Career Course graduate is preferable because of his understanding of the military decisionmaking process.

Company-Level Responsibilities

At the company level, we divided the responsibilities among the XO, supply sergeant, battalion liaison, distribution platoon, maintenance control officer, and headquarters company leaders.

Company XO. Each company XO is a key player in ensuring retrograde operations are planned and executed. The company XO should work with personnel in supply, maintenance, and mayoral cells in order to provide accurate feedback to the battalion XO and the battalion logistics officer.

Company supply sergeant. The supply sergeant is key to ensuring concepts become reality and are executed. He coordinates with the company XO, the battalion logistics officer, and the brigade property book officer. He assists in identifying excess equipment and inputting it into the Theater Provided Equipment Planner, which is used to reallocate excess property that units need to retrograde from their COPs or FOBs.

The supply sergeant also builds packets for each item that he identifies for turn-in to the redistribution property accountability team (RPAT). Finally, he is required to turn in the property to the RPAT yard. The job becomes increasingly difficult if the RPAT yard is located at a different FOB and requires a logistics convoy for the removal of materiel.

Battalion liaison. The battalion liaison to higher headquarters serves a critical role in retrograde operations for two reasons. First, the liaison assists in gaining situational awareness of how retrograde priorities adjust throughout the deployment. For example, the focus of the deployment might start on container organization and then shift to the turn-in of rolling stock. The liaison serves as the eyes and ears of the subordinate unit, so he remains nested with the higher headquarters.

Second, the unit's liaison assists in reducing friction points with other organizations. The liaison should be, at a minimum, a seasoned noncommissioned officer or company-grade officer with the personality and maturity level to function independently and interact with different civilian and military personalities. Maintaining relationships is critical to the sustainment of retrograde progress.

Distribution platoon. This platoon serves as the catalyst for the actual removal of materiel. This is particularly important when large bulk items must be removed from an outlying COP or FOB. During my battalion's deployment to Afghanistan, the distribution platoon conducted two to three logistics convoys a week. They were instrumental in supporting the reduction of excess property.

Maintenance control officer (MCO). The MCO manages the motor pool and class IX. Although this seems routine, the tasks are overwhelming when reintegrating vehicle parts that have accumulated over many years. The MCO is responsible for the massive amount of parts that need to be inventoried, accounted for, tagged, reported, and coordinated for turn-in. Turning in the parts requires weekly coordination with the distribution platoon and the brigade supply support activity.

Headquarters company. The headquarters company leaders have the difficult job of maintaining all mayoral and base defense responsibilities. This team cultivates relationships with various organizations, including civil-

ian contractors, military units, and local nationals employed on the COP.

Contracting local laborers can assist immensely with a FOB's retrograde operation, especially when units are tailored for security force assistance team operations. Often the unsung heroes, local laborers will assist with the operation of heavy equipment, such as cranes, flatbed trucks, front-end loaders, and steamrollers. Hiring local laborers allows for the repositioning of large items such as 20-foot-equivalent units (TEUs), kicker boxes filled with equipment, and piles of scrap metal.

Roles at the Brigade Level and Higher

Multiple entities at the brigade and higher levels are vital to executing battalion retrograde operations. Such individuals who are external to the battalion include the deputy brigade commander, brigade executive officer, brigade S-4, and brigade logistics support team chief. Civilian contractors are also heavily involved in the process.

The Defense Contract Management Agency (DCMA) manages all major camp contracts, such as the contract with Fluor, a civilian contractor that provides local logistics life support. Fluor also plays a role in the retrograde process. Its logistics footprint requires a large number of TEUs for storing items such as cold food, dry food, water, and housing repair parts.

The regional contracting center provides contracting support for short-term contracts that require renewal. Examples include contracted local labor, building construction or refurbishment, and trash removal. The most notable difference is that regional contracting center contracts often require semiannual renewal while DCMA contracts remain in place throughout the existence of the COP or FOB. These contracts are crucial to the retrograde mission because they provide the funds for local laborers and heavy equipment, without which retrograde operations would practically halt.

Tracking Retrograde Operations

Tracking and updating the progress of retrograde operations ensures the unit meets its stated outcomes. Units track this progress using systems designed by the battalion XO.

At a minimum, formal internal meetings with subordinate leaders serve as a litmus test for progress. These meetings also generate a plan among the battalion XO, the battalion S-4, and the company XOs for outcomes for the next week. During the meetings, the battalion XO provides updated guidance to the staff and company XOs for reallocating and prioritizing retrograde assets.

Examples include prioritizing heavy equipment, determining the company task requirements in relation to the unit's operational schedule, and determining the type of loads that the distribution platoon will move on its next logistics convoy. Weekly battalion synchronization meetings not only provide a status on movements, but also a forum for discussing lessons learned from the previous week.

One method we used was for each company XO to provide one after-action review comment each week. Often the comments applied to all of the companies. This allowed us to discover problems early on and address them across the battalion. Although simple in nature, over time the company XO's comments provided a historical log that we passed on to the following unit. Even though not all of the comments were relevant, this technique assisted with providing feedback that related to the many different phases of the deployment.

I suggest that frequent discussions with company XOs occur throughout the week in order to eliminate friction points that arise on a daily basis. Informal visits to the companies by the battalion XO normally serve as opportunities to gain an honest assessment of company-level progress while also determining what resources are needed that are not accessible at the company level.

Providing the higher headquarters

with feedback and progress assists with the efficiency and effectiveness of retrograde operations. Discussions with headquarters staffs ensure battalion operations are synchronized with the brigade and effectively communicated to the companies. Weekly feedback to the brigade XO and S-4 provides them with the situational awareness needed when operations slow down, such as when civilian contractors change positions, take leaves of absence, or relocate to a different operating base.

This communication will be directed by the brigade XO or logistics officer and will allow the battalions to reprioritize tasks to maintain efficiency. The deputy brigade commander may have oversight of the brigade's retrograde and should understand the magnitude of the operation. Occasional discussions can effectively ensure operations are nested with the brigade's long-range plan. This also provides the deputy brigade commander with a real-time snapshot of retrograde operations at the battalion level.

Synchronization meetings with higher headquarters allow for visibility of the status of nonmilitary entities that are also required to reduce their footprint. For example, a brigade bimonthly meeting known as the area facilities utilization board allowed our command to track both subordinate units and the integrated civilian entities needed to reduce the footprint of camps and outposts.

Fluor reduced its footprint in concert with the military's reduction in size. Although units worked laterally with Fluor, the contractor received its orders through DCMA, a third-party higher headquarters. Coordinating contractor reduction was the responsibility of the company or battalion that was located with it. Maintaining an open line of communication, the higher headquarters allowed for an efficient response concerning how to adjust the size of Fluor.

Battalion liaisons at distribution hubs are the connective tissue be-

tween battalions and their higher headquarters. Liaisons are vital to equipment turn-in to distribution hubs that are geographically separated from downsizing locations.

A collective effort is essential in preparing a unit for the decline in personnel and materiel that occurs during redeployment while the unit is still supporting tactical lines of effort. Understand what you are trying to accomplish, and follow these suggestions.

Determine the magnitude of the problem. Define what retrograde means to you and your unit. Determine your problem statement and communicate these findings early on, and then revisit the problem statement throughout the deployment. Incorporate your staff and company executive officers. Gain their input and you will have their support.

Update your assessment of retrograde operations when you arrive at your area of operations. Determine the military and civilian organizations and key players involved in the process. Contact them and remain connected. Ensure you maintain weekly, if not daily, assessments. Synchronize retrograde with your unit's operational schedule. Include the logistics officer in situational updates to your higher headquarters even if not required. Lastly, approach this mission like any other operation that requires planning, preparation, execution, and continued assessments.

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Distributing Repair Parts During Decisive Action Training

■ By Chief Warrant Officer 3 Marsha Johnson

The Army is transitioning from counterinsurgency to decisive action training at the National Training Center (NTC) at Fort Irwin, Calif. During the transition, observer-coach/trainers (OC/Ts) have observed many new challenges for the sustainment community; most notable is its inability to maintain combat power.

Flow management of class IX (repair parts) is critical to sustaining combat power. Supply support activity (SSA) operations within the brigade support area are challenged by the mission to rapidly receive and prioritize class IX to be pushed forward. The greatest challenges faced are expediting parts needed for combat systems and resourcing forward transportation for class IX.

What's Different?

During counterinsurgency training operations, delivery and pickup of class IX around the training area are manageable and have little or no effect on combat power. Support is easier to provide during this type of rotation because unit locations are predictable. Maneuver units usually set up on forward operating bases or command outposts for the duration of the training exercise, making it easier to distribute repair parts.

Alternatively, during decisive action operations, the maneuver units' task organizations are always changing and the SSA is greatly challenged to provide support to the right location on time. Delivering to a unit on the move makes it more difficult to get the right items to the right place at the right time.

Recommendations

To mitigate these challenges, the SSA accountable officer should dedicate an SSA Soldier to scrub the 026 (deadlined equipment) report daily. As class IX items are processed into the SSA receiving section, the Soldier should separate the 02 priority parts and arrange expedited air or ground delivery to the maneuver units. (The 02 priority parts are items required for immediate use in the replacement or repair of mission essential training materiel.) During past decisive action rotations at the NTC, this method has proved to be most effective in maintaining the units' combat power.

Aerial delivery assets are more efficient than ground assets because they allow for more timely delivery of repair parts. Using ground assets for parts delivery depends on the brigade support battalions' distribution company tactical convoy operation schedule.

Typically, if a convoy is not scheduled to leave for another six hours or has already left for the day, the items will have to wait for the next day's delivery. Class IX is usually low on the brigade combat team's (BCT's) priority of supply. Trucks are filled first with high-priority supplies such as food, fuel, and ammunition, and oftentimes little space is left for repair parts.

Another course of action would be to develop battalion field trains within the BCT. To counter the problem of the distribution company convoy unavailability, the BCT should place one or two vehicles in the field trains to help the distribution company expedite parts more

efficiently. This would allow the support operations officer to develop a dedicated convoy element combining all field trains assets.

Incorporating field trains within the brigade support area and having each battalion supply one to two vehicle platforms for support would be a great way to have 02 priority repair parts expedited throughout the training area with the sole purpose of improving combat readiness across the BCT.

Expediting class IX to support combat power has been a challenge for decisive action rotations since the Army began the transition from counterinsurgency training. The described courses of action are not intended to override published Army doctrine. They are intended to provide a way of getting class IX repair parts moved seamlessly across the training area and to share the observed notable challenges for the sustainment community at the NTC. Army units can incorporate the above outlined methods during home station training exercises to familiarize Soldiers with decisive action support concepts.

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Processing Financial Liability Investigations of Property Loss in a Deployed Sustainment Brigade

Reporting property loss in a deployed environment presents a number of unique challenges, especially to sustainment brigades.

■ By Capt. Scott R. Hockenberry

Everybody loses stuff. A deployed sustainment brigade loses a lot of stuff. Sustainment brigades are responsible for large quantities of property, and accountability is difficult in today's complex battlespace. Accordingly, financial liability investigations of property loss (FLIPLs) are a constant reality in this operational environment.

While effective command supply discipline is the first step to ensuring property accountability, FLIPLs will inevitably arise. The swift and thorough processing of these actions can contribute greatly to the unit's mission, incentivizing good stewardship of equipment, reconciling property books, and freeing up command teams to focus on operational goals.

Complications of Deployment

Although staffs of all units are familiar with FLIPLs, the staff of a deploying sustainment brigade must recognize and anticipate that the volume and complexity of these actions will greatly increase during deployment. By the nature of the sustainment mission, a deployed brigade will be responsible for an immense amount of equipment and property.

Not only is there more equipment to lose while deployed, but there are also more opportunities to lose it. The constant movement inherent in the sustainment mission exponentially complicates the task of maintaining accountability.

Adding another layer of complexity are changes to the organizational structure of the sustainment brigade. Units and command teams come and go every nine to 12 months, interrupting the continuity of processes and cutting short institutional knowledge. Additionally, deployed sustainment brigades inevitably swell in size with the administrative attachment of additional battalions.

Support to Coalition Partners

Deployed sustainment brigades and their subordinate units routinely provide equipment to foreign militaries. Equipment is provided under various frameworks: lift and sustain support, acquisition and cross-servicing agreements, and sometimes simply as a practical part of day-to-day joint operations.

Property in the custody of coalition partners adds even more complexity to the property accountability process and, when lost, to the resulting FLIPLs. Foreign officers are understandably unfamiliar with the nuances of U.S. regulations and policies on the technical aspects of property accountability. Foreign officers responsible for U.S. property are usually senior in rank, and since financial liability officers must be senior to the individual under investigation, FLIPLs involving property lost under foreign custody often require the appointment of a high-ranking U.S. investigating officer.

Command and Control

Command and control over subordinate units processing FLIPLs is also complicated in a deployed environment because many of the units that the sustainment brigade has administrative control (ADCON) of fall outside of its operational control (OPCON). Engineer brigades, for example, often have OPCON of engineer battalions, of which the sustainment brigade has ADCON.

Logisticians should embrace these opportunities to support occupationally diverse units. According to Army Doctrine Publication 4-0, Sustainment, ensuring freedom of action, and extending the operational reach of supported units are key aspects of the sustainment warfighting function; providing ADCON support is a key element in accomplishing this.

The supply and logistics expertise of a sustainment brigade's staff makes it particularly well suited to assist in property accountability and financial reconciliation. Nonetheless, providing ADCON services to non-organic, often geographically disparate, units poses challenges. Close interaction and coordination with battalion-level staffs is essential to effectively processing actions arising from these units.

A deployed brigade staff must establish a clear understanding of the proper channels and relevant battalion action officers involved in processing FLIPLs and other ADCON

actions. Clear and constant communication will go a long way toward bridging the continuity gaps inherent in partial attachment.

With regard to the challenge of geographic separation of units sharing a command relationship, there are no tricks or shortcuts. Hard work, clear communication, and consistent procedures are the only way to successfully route FLIPLs through the necessary channels, which are often on forward operating bases.

Keeping It Short

Processing FLIPLs always is tedious and time-consuming. From start to finish, the simplest of FLIPLs requires action by at least 10 individuals (the initiator, responsible officer, battalion S-4, brigade S-4, accountable officer, property book officer, appointing authority, investigating officer, legal advisor, and approval authority). This number can increase in more complex cases.

To compare it with the military legal system, processing a special court martial from initiation to sentencing requires action by only seven individuals (the prosecutor, company commander, battalion commander, brigade commander, division commander, defense attorney, and the military judge).

However, an efficient staff with a working knowledge of Army Regulation 735-5, Property Accountability Policies, will recognize opportunities to streamline the process. They will not do this by cutting corners, which will only compound the problem of property accountability, but instead by leveraging regulatory leniency where possible.

The easiest way to streamline the FLIPL process is to conduct "short FLIPLs" in situations where the facts are readily apparent, and unnecessary investigative steps can be avoided. Commanders have the regulatory authority to direct short FLIPLs when the facts clearly indicate whether or not a loss resulted from negligence. Rather than appoint an investigating of-



Capt. Zachary Savarie, the 101st Airborne Division (Air Assault) foreign excess personal property officer for Forward Operating Base Salerno, Afghanistan, conducts a joint inventory with soldiers from the Afghan National Army. (Photo by Spc. Charles M. Willingham)

ficer to make a recommendation, a commander can simply make a determination.

Short FLIPLs can be used more often than they are, and the option should always be kept in mind, especially while deployed. Battlefield losses, which represent a large portion of items lost in theater, often present an excellent opportunity to bypass the investigative process and make a determination based on known facts.

It is usually undisputed in the case of battlefield losses that the damage or destruction was caused by enemy action rather than fault on the part of the Soldiers involved. Using short FLIPLs in such cases can significantly reduce processing time and, just as importantly, shield busy units from unnecessary expenditure of resources at a time when they should be particularly focused on their mission and Soldiers' needs.

Before recommending a short FLIPL, staffs should be cognizant that there may be other considerations beyond financial responsibility. For example, investigations are required when controlled items are

lost or destroyed, regardless of suspicion of fault.

An awareness of the property accountability challenges that will be faced in a deployed environment will go a long way toward taking the steps necessary to meet them. A brigade staff that is prepared from the outset will be able to provide quality support both to the brigade commander and subordinate command teams.

In the end, there is no substitute for hard work, consistent procedures, clear communication, and thorough regulatory knowledge. While property accountability in theater is necessarily tedious and at times aggravating, the efficient processing of FLIPLs inestimably supports the sustainment function, attached units, and mission accomplishment.

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The 10 Things You Should Know About CAISI and CSS VSAT

Knowing these things about the Combat Service Support Automated Information System Interface and the Combat Service Support Very Small Aperture Terminal will help you make the most of the Army's sustainment information systems.

■ By Capt. Bradford M. Bethea II and Chief Warrant Officer 4 Luis G. Sanchez

What do stock car racing and the Global Combat Support System–Army (GCSS–A) have in common? Communications dependence. Watch any NASCAR race and it quickly becomes obvious that success can be achieved only through constant, uninterrupted communication between the driver and his pit crew. A driver's dependence on communication is not much different from the communication required for the Army's automated sustainment systems, especially GCSS–Army, the enterprise resource planning (ERP) system that is now being fielded.

The Combat Service Support Automated Information System Interface (CAISI) and the Combat Service Support Very Small Aperture Terminal (CSS VSAT) were developed to be user owned and operated to support existing sustainment information systems and the evolving GCSS–Army. Thanks to them, sustainment transaction and status updates are now available across the sustainment domain in just seconds instead of the long lag times—sometimes days—that were experienced during Operation Desert Storm and the first months of Operation Iraqi Freedom.

To ensure your success in using sustainment information systems, here are the top 10 things you need to know about CAISI and CSS VSAT.

1. The CAISI and CSS VSAT sys-

tems are found everywhere an Army sustainer works; they are used in support of combat training center rotations, field training exercises, garrison operations, and contingency operations. They are found in ammunition transfer holding points, motor pools, supply shops, support operations shops, brigade S–1 shops, and battalion or unit aid stations. A typical brigade-sized element has an average of eight CSS VSATs and 73 CAISIs.

2. The CAISI and CSS VSAT systems are easy to deploy and set up. In 20 to 30 minutes, CSS VSAT can go from being “fully stored for transport” to being able to successfully transmit automated sustainment data. A sustainer can shut down, store, transport, and set up the systems at a new location without assistance.

CAISI does not require the use of long cable runs. CAISIs communicate wirelessly with each other and provide connectivity even if the CSS VSAT is miles away. This is important because motor pools and supply support activities do not normally fit within a brigade, battalion, or company command post area.

3. CAISIs can extend communications support up to 35 miles. CAISIs can be deployed to establish connectivity using a combination of grid, dual-band, and omnidirectional antennas. Using a grid-to-grid line of sight configuration allows a sustainer the freedom to operate up to 35

miles away from the CSS VSAT. A grid-to-omnidirectional combination extends the range six more miles, and an omnidirectional-to-omnidirectional combination extends the range up to four miles.

Once the CAISI and CSS VSAT network has been established, clients are connected using an Ethernet cable up to 100 meters away from the CAISI switch. DSL [digital subscriber line] bridges in the CAISI systems support representatives kit can be used whenever mission, enemy, terrain and weather, troops, and support available, time available, and civil considerations require their use.

4. The CAISI and CSS VSAT are user owned and operated. They can be set up by the owner, who may be military occupational specialty (MOS) 68G (patient administration specialist), 68J (medical logistics specialist), 88M (motor transport operator), 92Y (unit supply specialist), or 92A (automated logistical specialist). No additional MOS is required in the using activity to maintain and deploy the systems. With constant use and training, both in garrison and in field environments, users quickly become self-sufficient in deploying the CAISI and CSS VSAT.

5. CSS VSAT bandwidth is provided by the Product Manager Defense Wide Transmission Systems. Satellite access time is provided year round, assuring sustainers that their

communications needs will be met. Satellite access requests are not required in order to conduct sustainment operations over the CAISI and CSS VSAT network.

6. CAISI and CSS VSAT can be palletized and transported in one vehicle. Each CAISI consists of a transport box and antenna carrier. The CAISI bridge module's shipping weight is 54 pounds, and the total weight for the CSS VSAT is 494 pounds. Read the fine print and follow directions. Do not put it away wet; properly pack and store it. Inspect the connectors before and after operation.

7. CAISI is the communications interface for sustainment information systems and GCSS-Army. CAISI has the technology to create secure wireless bridging and wireless local area network services. CAISI incorporates two radios and is dual-band frequency capable.

8. CAISI and CSS VSAT provide built-in level 2 security (as outlined in Federal Information Processing Standards Publication 140-2, Security Requirements for Cryptographic Modules) and voice over Internet protocol. The centrally managed "call manager" provides sustainers with the ability to communicate worldwide with any other voice over Internet protocol phone that is connected to a CSS VSAT.

9. CAISI and CSS VSAT are supported by unit sustainment automation support management office (SASMO) personnel. With an average of 10 system specialists, including supply, medical, signal, maintenance, and aviation, SASMOs can support the brigade CAISI and CSS VSAT network. They ensure the brigade's automated sustainment information systems are fully operational.

No additional workload is placed on unit S-6 shops to support these systems. External CSS VSAT support is just one phone call away.



Two Combat Service Support Very Small Aperture Terminals and a Combat Service Support Automated Information System Interface are set up outside a 4th Infantry Division sustainment automation support management office at Camp Buehring, Kuwait. (Photo by Chief Warrant Officer 2 Daniela Davies)

While users may call the SASMO, satellite communications field engineers, or Inmarsat (a communications contractor) directly for assistance, the SASMO should always be the first choice.

10. Perhaps most importantly, a CSS VSAT and CAISI pocket guide application for mobile devices is available in the Apple app store for Apple devices and the Google Play app store for Android devices. Search for "CAISI-VSAT" on both store sites. This application includes valuable information to the operator in the field. It includes links to technical manuals, setup configuration videos, and contact information that can be used by sustainers needing assistance worldwide.

Drivers and pit crews constantly test and train with all the same equipment they use on race day to ensure that everything works and to afford the team the best chance of a win. Automated sustainment information

system users must do the same with their CAISI and CSS VSAT systems if they are to be successful in their missions.

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Army TMDE Utilization Study

To improve test, measurement, and diagnostic equipment (TMDE) utilization, the Army recently conducted a study that surveyed TMDE usage, coordinator training, and calibration workloads.

■ By Daniel Moody and Nicholas C. Zello

What if there were an easy way for commanders and Soldiers to reduce the time spent on test, measurement, and diagnostic equipment (TMDE) coordinator tasks and increase overall unit readiness? What if calibration workload backlogs could be reduced by removing obsolete and unused TMDE from unit property books?

The Combined Arms Support Command (CASCOM) and the Army Materiel Systems Analysis Activity (AMSAA) have recently focused on accomplishing these goals by conducting the TMDE Utilization Study. The study focused on determining TMDE utilization, removing TMDE not in use from property books, reducing calibration backlogs, and improving TMDE coordinator training materials.

About TMDE

TMDE is an important component of Army maintenance because it provides the ability to test, adjust, synchronize, verify accuracy of, and repair air and ground weapon systems by using highly precise measurements across various spectrums. These include physical, dimensional, radiological, electrical, electronic, electromagnetic, and electro-optical ranges. Each TMDE spectrum requires a level of traceable accuracy that ensures aviation and ground weapon systems can perform optimally and safely.

The Army uses calibration sets and equipment that reflect national and international TMDE standards; their chain of custody hierarchy begins with the National Instrumentation of Standards and Technology

(NIST). All Army TMDE requires calibration and is traceable to the NIST to ensure that the equipment's level of measurable accuracy provides the necessary maintenance support for the appropriate weapon system platform.

Each unit tasks personnel to be TMDE coordinators who are responsible for turning in assigned TMDE for calibration support and for managing their specific portion of the brigade's TMDE program. Military occupational specialty 94H (TMDE support specialist) Soldiers and U.S. Army TMDE Activity (USATA) civilians are responsible for providing precision measurement and repair tasks on general and special purpose TMDE.

Each TMDE item requires a separate calibration procedure and traceability requirement. Those procedures are established in Technical Bulletin 43-180, Calibration and Repair Requirements for the Maintenance of Army Materiel, which provides step-by-step, methodical calibration tasks that are followed by military and civilian calibration specialists.

The quantity of TMDE supported varies by location and the type of weapon systems requiring support. However, typical area TMDE support teams and USATA TMDE support centers each have an average of 7,500 TMDE items enrolled for calibration support.

The Study

Over the past four years, calibration backlog trends have grown across the military and civilian calibration support teams, resulting in delays to return TMDE to the supported units.

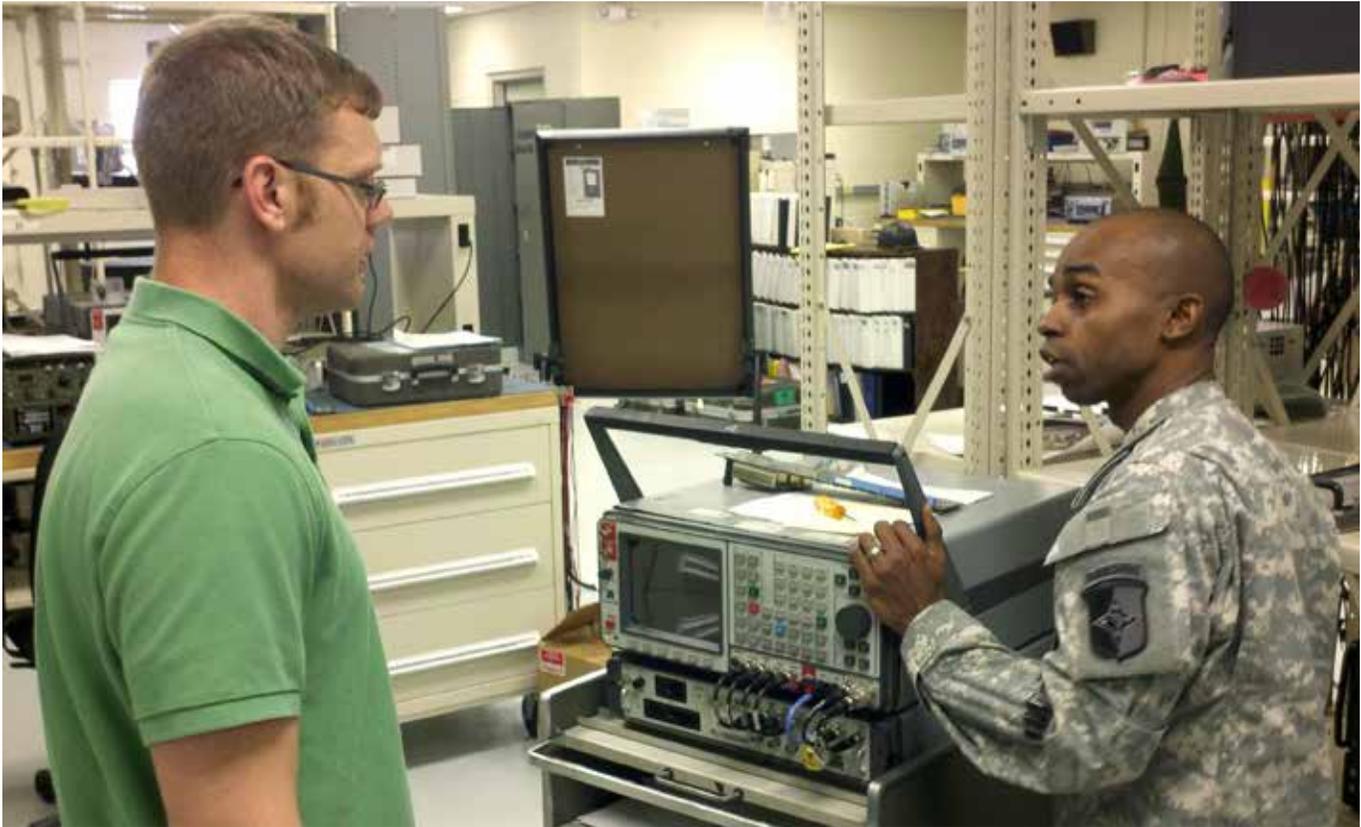
Serving as the capability developer, requirements manager, and user representative for TMDE, CASCOM uses direct feedback from Soldiers to adjust current doctrine and generate new requirements.

During a 2012 TMDE unit site visit, a team from CASCOM received Soldier feedback that numerous TMDE items were being turned in for calibration but not used for mission support functions. This led CASCOM, with the help of AMSAA, to recommend to the chief of Ordnance that the Army perform the TMDE Utilization Study.

In January 2013, CASCOM and AMSAA began conducting the study across the force structure with the intent to validate TMDE items in use, identify unused test equipment being turned in for calibration support, collect information on commercial off-the-shelf TMDE products purchased by units, and analyze TMDE coordinator training. The study focused specifically on the electrical and electronic spectrums of calibration.

AMSAA developed TMDE usage and TMDE coordinator training surveys, which were administered during site visits to various brigade combat teams (BCTs), including armor, infantry, Stryker, combat aviation, and multifunctional brigades (including fires, air defense, battlefield surveillance, and sustainment brigades). The target audience for the study included Soldiers in the aviation, military intelligence, ordnance, and signal maintenance career fields.

CASCOM and AMSAA met with supporting military and civilian calibration personnel during



An area test, measurement, and diagnostic equipment (TMDE) support team noncommissioned officer-in-charge discusses calibration procedures for the GRM-122 radio test set with a TMDE Utilization Study representative. (Photos by Daniel Moody)

each unit visit to verify calibration workloads and TMDE use. During the six-month study, AMSAA and CASCOM met with 32 brigades and 83 units and received assistance and support from Forces Command, I Corps, III Corps, and the 101st Airborne Division G-4 office.

During the site visits, AMSAA and CASCOM confirmed and validated electronic test equipment usage for all of the BCT types. Specifically, the GRM-122 radio test set and the TS-4348 and TS-3895 night vision test sets were identified as the key TMDE maintenance enablers in support of approximately 400,000 tactical radios and 625,000 night vision devices across the entire Army. In many instances, the GRM-122 radio test set was used in support of other electronic maintenance tasks, which resulted in multiple pieces of TMDE being placed in storage.

To further the analysis, AMSAA

developed a sensitivity spreadsheet using the information collected from each site visit and survey that linked TMDE line item number (LIN) usage or nonusage across each BCT and multifunctional brigade, including the technical bulletin calibration standard hours for each LIN.

AMSAA and CASCOM found that TMDE coordinator training is well received by Soldiers, but there is room for improvement. Specifically, AMSAA and CASCOM recommended adding blocks of instruction for TMDE coordinators to review their property books with TMDE subject matter experts to ensure that all TMDE requiring calibration is captured and enrolled in the TMDE program. They also recommended that CASCOM investigate the feasibility of creating recertification parameters and refresher training courses for existing TMDE coordinators.

Outcomes of the Study

The TMDE Utilization Study will serve as a valuable resource for many organizations, including CASCOM, Forces Command, the Army G-4, and USATA, to adjust unit property books and accurately reflect the TMDE needed for units to complete current and future mission requirements.

The preliminary study results have identified more than 13,000 calibration workload hours saved through LIN elimination or reduction. These savings will assist the military area TMDE support teams and USATA TMDE support centers with more accurately prioritizing their calibration workloads. As a result, the TMDE Utilization Study will help to reduce the calibration workload backlog across the Army and help calibration labs return TMDE to units more quickly.

The TMDE validated through the



Test, measurement, and diagnostic equipment awaits calibration and repair in a support shop.

utilization study will play an important role for future procurement strategies within the acquisition community. More specifically, the study provides the Product Director TMDE with a validated understanding of the requirements for program objective memorandum prioritization planning in support of the Test Equipment Modernization Program and the transition to the Army of 2020.

The BCTs should be able to procure less commercial off-the-shelf equipment, and the TMDE could possibly be procured by the Product Director TMDE. All identified LINs being recommended for elimination will go through a type classification/obsolescence process and staffing. Major commands will be given dissemination instructions for affected LINs to be placed in a “calibrate before use” or “calibration not required” status and stored accordingly until specific turn-in

guidance is provided.

CASCOM will begin the basis of issue plan amendment and reduction process for LINs that were used by some, but not all, BCTs. Moreover, the Army G-4 will use the TMDE Utilization Study as a verification resource for their critical LIN list review.

The Army TMDE Utilization Study results and the total calibration hour savings detailed by AMSAA can be effectively used to further improve the efficiency of the Army’s TMDE program and activities. These types of studies ensure that calibration and TMDE activities continue to be conducted to support Soldiers’ needs directly.

Removing obsolete and unused TMDE will help to significantly reduce calibration backlogs and help calibration labs to return TMDE to Soldiers’ hands. Overall, this will ensure that weapon systems main-

tenance is continually performed on time and with highly accurate and calibrated TMDE and tools.

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Understanding the COMSEC Materiel Control System

Replacing communications security equipment has specific requirements. Knowing those requirements and following them can reduce replacement wait time.

■ By Maj. Saul Decker

Requisitioning communications security (COMSEC) key devices is challenging to those who are unfamiliar with the COMSEC Materiel Control System (CMCS). COMSEC key device requisitions require a valid shortage, a COMSEC custodian with an Information Systems Security Program (ISSP) account, and frequent follow-up with key personnel and agencies throughout the process.

Army Regulation (AR) 710-2, Supply Policy Below the National Level, divides COMSEC equipment into two categories: unclassified and classified. Unclassified COMSEC equipment has a controlled item inventory code (CIIC) of U, 7, or 9 (less key devices), while classified or accountable COMSEC equipment has a CIIC other than U, O, 7, or 9. This article will explain how to replace simple key loaders (SKLs) after the maintenance activity determines them nonrepairable.

COMSEC Repair Request Process

Tobyhanna Army Depot (TYAD), Pa., repairs COMSEC equipment. AR 710-2 states that unserviceable COMSEC items must be repaired by a depot or special repair activity and only TYAD performs COMSEC materiel demilitarization and disposal.

When a customer submits an SKL for maintenance using a Department of the Army (DA) Form 2407, Maintenance Request, he expects to receive the same item back

fully mission capable. However, if the SKL is nonrepairable, TYAD keeps the item for disposal and provides the customer with a Department of Defense (DD) Form 1348-1A, Issue Release/Receipt Document, stating that the item is nonrepairable. The maintenance transaction then becomes a supply transaction, creating a valid shortage.

The cover letter with the DD Form 1348-1A informs the customer of the process to request replacements. The unit must process the paperwork provided by TYAD through the local property book office to remove the items from the consolidated property list. Once this action is complete, the COMSEC custodian uses the CMCS to

request replacements. The COMSEC custodian uses the ISSP system to submit the requisition.

SKLs have a CIIC of 9, but since they are key devices, they fall into the accountable COMSEC category. The COMSEC custodian, not the unit property book officer, is the accountable officer for classified COMSEC materiel.

The Communications Security Logistics Activity (CSLA) uses the ISSP system to centralize COMSEC requests. The ISSP system manages COMSEC requisitions not only to ensure equitable distribution but also to capture current and future COMSEC requirements across the Army. If the COMSEC custodian does not have an ISSP



Soldiers receive instruction on the operation of a simple key loader at the Joint Readiness Training Center at Fort Polk, La. (Photo by Sgt. Terence Ewings)

account, he must establish one at <https://issp.army.mil/>.

The COMSEC custodian enters the requisition in either the MS4X (IA tools/support) or the MX5T (COMSEC) section within the ISSP and uploads the cover letter and DD Form 1348-1A provided by TYAD. Expedited requests require a memo signed by the brigade commander.

Reducing Wait Times

Once requisitions are submitted, the unit must monitor them closely. Maintaining close oversight of COMSEC requisitions by monitoring the ISSP system and following up with key COMSEC materiel approving authorities reduces wait times. COMSEC materiel request approval requires the concurrence of several offices, usually in-

cluding the unit's Army command COMSEC manager, CSLA, and the COMSEC program director, before the item manager can release any assets.

If any of the approving officials discover an error, the request is returned without action to the requester through the ISSP system for correction and resubmission. The key to reducing customer wait time is for the requesting COMSEC custodian to monitor the ISSP system for any returned requisitions, quickly correct the errors identified, and immediately resubmit the request.

If the COMSEC custodian is unclear on how to fix the errors, he should contact either the Army command COMSEC manager or the CSLA help desk for guidance. (See figure 1.)

Navigating the CMCS is a challenging task. In many cases, the process is one of discovery and learning. The requirements for replacing COMSEC are detailed and sometimes confusing. Even if requesters satisfy the minimum requirements they must also be willing to remain patient, learn, and correct mistakes in order to be successful.

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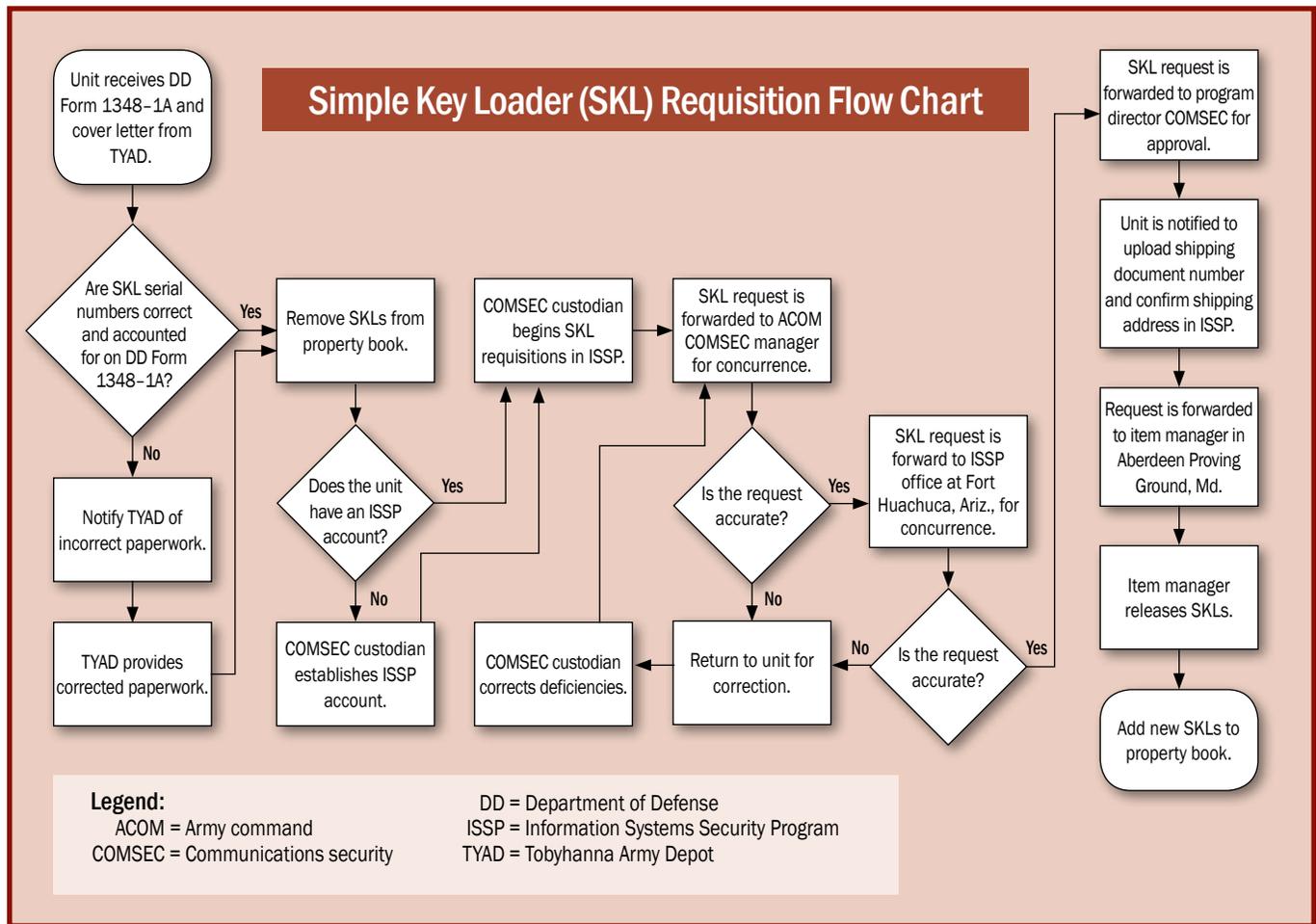


Figure 1. This chart illustrates the simple key loader requisition process.



A Bradley fighting vehicle commander from the 1st Brigade, 1st Armored Division, radios his crossing time to his headquarters during Operation Joint Endeavor. (Photos courtesy of the Joint Combat Camera Center)

Getting There Was the Battle: Part I

This article, the first in a two-part series, looks back at the impact of insufficient logistics force structure during the planning phase of Operation Joint Endeavor, the deployment of peacekeeping forces to Bosnia-Herzegovina in 1995.

■ By Dr. James P. Herson Jr.

Operation Joint Endeavor, NATO's first major post-Cold War peacemaking mission to the former Republic of Yugoslavia (FRY) is widely portrayed as a great success. Less publicized, however, is the difficulty U.S. Army Europe (USAREUR) faced in simply getting its forces deployed to the FRY and how close it came to failure.

Department of the Army and USAREUR senior leaders' post-Cold War downsizing decisions significantly affected the composition of logistics and enabling forces.

The initial deployment of Europe-based U.S. Army forces into the FRY illustrates the operational impact that reductions in the Army's logistics force structure have on its

force projection capabilities.

As in prior downsizings, senior Army leaders opted to cut logistics forces more than combat arms organizations, choosing tooth over tail. This decision almost resulted in USAREUR's failure to meet the Dayton Accords' boots-on-the-ground timeline.

A lesson from a painfully "right-

sized” USAREUR in the mid-1990s may prove useful to today’s Army force structure planners who are reshaping an increasingly smaller force following its lengthy and costly fight in Iraq, Afghanistan, and elsewhere without a “peace dividend” in sight.

Post-Cold War Downsizing

The post-Cold War downsizing of U.S. forces in Europe was significant. From 1990 to 1995, USAREUR went from 213,000 military personnel and 62,000 civilian employees to 65,000 military personnel and 19,000 civilian employees. Overall, the Department of the Army lost close to 40 percent of its force structure in an era where deployments had risen 300 percent.

Of the two Cold War-era Army corps in Germany (the V and VII Corps, which were each composed of three divisions, a corps support command [COSCOM], and other enablers), only V Corps remained.

V Corps in the 1990s was smaller and had less combat power than it had during the previous decade, despite enjoying some minor equipment modernizations. Also, its remaining two divisions, the 3rd Infantry Division and the 1st Armored Division, had each lost a ground maneuver brigade, leaving only two.

Not only were the combat arms units that provided the punch reduced in number and scope, but the combat support and combat service support (CSS) branches that provided vital signal, intelligence, and logistics support to U.S. forces in Europe were also dramatically pared.

Without the Soviet threat, what was the purpose of maintaining a still sizable, albeit smaller, U.S. forward presence in Europe? Commenting on this conundrum, the V Corps historian at the time mused, “An Army needs an enemy the way an evangelist needs sin. Without a credible and virulent foe, the service has always

had difficulty justifying itself.”

In this case however, instead of the Army’s presence in Europe being viewed as an unneeded and expensive Cold War holdover, the retention of U.S. troops in Europe became a vital part of NATO’s efforts to stop violence and genocide in the Balkans.

Having been prepared for decades to counter a high-intensity Warsaw Pact invasion, conducting a peace-making operation with just one of its shrunken divisions should have been simple for USAREUR. However, planning for and then dispatching USAREUR forces to the FRY became one of the most cumbersome and difficult deployments experienced by U.S. troops since World War II.

Even before the Berlin Wall rose in a divided Germany during President John F. Kennedy’s tenure, senior commanders in USAREUR recognized that they lacked sufficient transportation units and logistics capabilities



Task Force Eagle engineers drop a bridge float section from a hastily constructed riverine drop point from their recently flooded basecamp.

to transition and sustain combat operations against the massive mechanized Warsaw Pact formations they faced. In 1958, the NATO supreme allied commander Europe “doubted that the Seventh Army had the logistics means to conduct sustained combat operations.”

Although defense leaders noted USAREUR’s shortage, sourcing the force for Vietnam became the Army’s main effort from the mid-1960s to the early 1970s; thus, little emphasis was placed on solving USAREUR’s Cold War logistics shortfalls. Instead the Pentagon focused on sourcing the more immediate threat in South-east Asia.

The drop in the active Army’s troop strength following the Vietnam War, the accompanying severe budget cuts, and the adoption of a tiered readiness construct in the 1970s made the Army a hollow, ill-trained and unready force. The unpopularity of the Vietnam War and widespread societal disapproval of most things military caused the U.S. Army to be isolated from the very public it was sworn to protect.

Post-Vietnam Transformation

Gen. Creighton W. Abrams Jr., chief of staff of the Army in the immediate post-Vietnam period, was determined that the Army would never go to war again without the benefit of a national discussion. He reasoned that senior civilian decision-makers could not escape a public debate if he restructured the Army to rely on its mainly civilian Reserve component troops in order to transition to war.

Correspondingly, Abrams took many active duty logistics units and commands out of the regular Army and either deactivated them or moved them into the Reserve component. Along with this strategy, Abrams increased the number of combat divisions in the active Army to 16 using the newly vacated spaces to help man the new divisions.

He accomplished this through a combination of aggressive recruiting

and restructuring and without raising the overall Army end strength. This dramatic change in force composition was authorized in a gentlemen’s agreement known as the “golden handshake” that Abrams brokered with Secretary of Defense James R. Schlesinger.

Even before the 1990s drawdown, several Army leaders recognized the danger that the lack of sufficient U.S. European theater CSS units and capabilities had on their organizations. Just a decade before Operation Joint Endeavor, the NATO supreme allied commander Europe, Gen. Bernard W. Rogers, testified before Congress that the Army did not “have sufficient combat service support forces to support our forward deployed forces in Europe.” A year later in 1986, the USAREUR commander, Gen. Glenn K. Otis, testified to Congress that “history warns that there is peril in basing combat operations on inadequate CSS.”

Despite the considered opinions of senior leaders on the need for more logistics units and what history had to say about their importance, the choice to save tanks and artillery rather than the means to move and fuel them indirectly sacrificed the very operational mobility that senior Army leaders had likely hoped to maintain.

By the late 1980s, the Germany-based Seventh U.S. Army—although it was the most powerful and robust field army the nation had ever fielded in peacetime—still lacked sufficient logistics capabilities to sustain its forces. USAREUR thus began the post-Cold War drawdown already gravely short of logistics wherewithal.

When the Army further shed nearly 40 percent of its force structure by 1995 as part of the post-Cold War rightsizing, the trend of cutting logistics in favor of combat arms accelerated, creating an even greater imbalance in the capability of its remaining forces.

The tooth-to-tail ratio became grossly skewed, and the likelihood that USAREUR could conduct op-

erations without being constrained by its own poor logistics stance was close to impossible.

Getting Past Inadequate Logistics

The rightsizing of USAREUR logistics units was a substantial contributor to the slow and unwieldy deployment of the U.S. Implementation Force (IFOR) into the FRY. For instance, in the area of tactical transportation, V Corps’ sole remaining truck battalion (the 181st Transportation Battalion) was downsized from five line truck companies re-sourced at authorized level of organization (ALO) 1 in 1990 to only three line truck companies by 1995. Of these three companies, one was ALO 2, another was ALO 3, and the third was capped at ALO 4.

The ALO refers to the unit’s authorized level of manning and equipment. An ALO of 1 roughly translates into the unit having 100 percent of personnel authorizations and required equipment on hand. A higher ALO number means that the unit is authorized fewer personnel and less equipment to accomplish the same mission.

The higher headquarters of the 181st Transportation Battalion was the 3rd COSCOM, which also took significant personnel cuts. The 181st Transportation Battalion had a composite ALO of 3, but the 3rd COSCOM headquarters had an ALO of 5. Unfortunately the shortages in the theater’s transportation movement control community were even more acute.

At the theater level, the 1st Theater Movement Control Agency (TMCA), a subordinate command of the also majorly downsized 21st Theater Army Area Command, was responsible for coordinating common-user land transportation assets, conducting container management and transportation contracting for USAREUR customers, and other associated support tasks.

For a deployment outside of Western Europe, the 1st TMCA would have to play a central role in planning and execution. The TMCA needed to



Deploying Task Force Eagle vehicles and cargo at a staging area at Rhein-Main Air Base, Germany, await airlift to Tuzla Air Base in Bosnia.

be capable of orchestrating multiple transportation modes from many nodes, synchronizing transit coordination and movements, and supervising and modifying transit timelines and agreements with private and public transportation agencies among both NATO partners and nonaligned nations.

Like the 3rd COSCOM and its own headquarters, the 1st TMCA was not adequately manned. Its personnel authorizations were at ALO 8, equating to a fill of just 35 percent. Its subordinate units were also significantly under-resourced. In many cases, the staff of the TMCA was just one person, making sustained and split-based operations impossible.

In theater transportation operations, the 37th Transportation Command of the 21st Theater Army Area Command had only one remaining truck battalion on its roles. Although

better resourced than V Corps transportation units, it too had more missions than means or manpower.

To calculate “faces and spaces” in the post-Cold War rightsizing era, USAREUR and Department of the Army senior leaders opted to harvest much of the theater’s transportation force structure to save billets for its combat arms organizations.

This decision caused much of USAREUR’s difficulty in efficiently moving one of its smaller divisions to the Balkans—never mind how it might attempt to move the entire V Corps to an area of conflict while concurrently providing its sustainment.

Deployment Planning

Throughout the early 1990s, NATO’s thoughts were constantly shifting about what to do about the increasingly ineffective United Nations (U.N.) Protection Force and the

noncombatants who were suffering in the FRY.

Until the Dayton Accords were signed, the continuing deterioration seen in Bosnia—televised atrocities, rape camps, the U.N. Protection Force hostage crisis, the overrunning of U.N. “safe areas,” and predictable follow-on massacres by Serbian troops and paramilitary elements—prompted western public opinion to demand a feasible solution.

Consequently, U.S. European Command and USAREUR planners approached the problem in two ways. One option was to deploy a sizable NATO force to enter the FRY and extract the U.N. Protection Force either peacefully or forcibly.

The other plan called for using a substantial NATO force to extract the U.N. Protection Force and then assume its peacekeeping mission using more robust rules of engagement

to establish effective security.

These two approaches required many of USAREUR's subordinate headquarters to conduct contingency planning for both with little coordinating guidance. The main question that stymied USAREUR's logisticians was how would they support either option, given the theater's now even more modest logistics force structure and the frustrating lack of detail on the intended end state, rules of engagement, and timelines. In essence, too many assumptions and too few facts plagued both military leaders and their exhausted planners.

Prior to the signing of the Dayton Accords on Dec. 14, 1995, NATO and some of its subordinate commands had already conducted planning for a possible U.N. Protection Force extraction mission. In early 1993, the NATO supreme allied commander Europe designated Allied Forces South as the lead in developing an implementation plan for securing peace in Bosnia.

Consequently, Allied Forces South developed and internally staffed Operation Plan 40103 (Operation Disciplined Guard) in November 1993. Although the plan was not executed, many of its concepts were reflected in follow-on planning products.

After the plan's limited release, refinement continued within Allied Forces South and the plan was substantively revised, renumbered, and renamed Operation Plan 40104 (Operation Determined Effort) in 1994.

Recognizing the increasing vulnerability of the U.N. Protection Force caused by increased Serb aggression and ineffectual rules of engagement, Operation Plan 40104 focused on an "in extremis" extraction of the U.N. Protection Force and its replacement with a credible NATO force using NATO's Allied Rapid Reaction Corps as the command element.

Operation Plan 40104 tasked USAREUR (as a force provider) to be prepared to further task organize a heavy brigade (+) from the 1st Armored Division and a logistics sup-

port element from V Corp's 3rd CO-SCOM and select theater enablers for a possible deployment to the FRY.

Because of the increasing danger to the U.N. Protection Force and FRY noncombatants caused by heightened Serb aggression, the U.S. European Command and USAREUR began developing a more rapid extraction concept using the U.S. Southern European Task Force (Airborne) (SETAF) as the primary extraction force. This planning initiative became known as the quick reaction option.

Final Planning

Up until November 1995, both plans—the lighter SETAF-centric extraction plan and the heavy 1st Armored Division option—remained viable. Either could be selected based on ground conditions, international political developments, or internal NATO machinations. What connected both options was a reliance on the same austere theater logistics base.

Ultimately, the heavy IFOR peace-making force concept prevailed. As part of the operational design, the United Kingdom and France would control two division sectors in Bosnia while the U.S. IFOR would control the remaining sector, Multi-National Division North. The U.S. IFOR would be formed from the 1st Armored Division and select V Corps units. Along with these heavy forces came the need for heavy logistics, especially transportation.

The occupation of the U.S. sector in Bosnia proved to be more challenging than the occupation of the French and British divisions. British and French IFOR elements were essentially already deployed; they had been part of the rapid reaction force that deployed in 1995 to buttress the failing U.N. Protection Force after the Srebrenica massacre. Once the Dayton Accords were signed, they were simply reflagged from the U.N. and put under the command of NATO's Allied Rapid Reaction Corps.

The Dayton Accords required that

some 60,000 IFOR troops (20,000 of which were U.S.) arrive almost immediately in the contested areas of the FRY to supervise the agreed-upon ceasefire, patrol the zones of separation, ensure the separation of belligerents, conduct major weapons cantonment, and fulfill other military provisions.

The short window to meet this force arrival goal presented a dramatic challenge for USAREUR's logisticians, especially for transportation units that would have to execute a large surface deployment within a short time frame.

As part of the Dayton Accords working group, Gen. Wesley K. Clark promised Serb President Slobodan Milosevic that U.S. forces could arrive almost immediately after the Dayton Accords were signed and, in doing so, inadvertently compressed an already difficult force projection timeline.

Not privy to agreed dates of arrival because of White House imposed compartmentalization, Joint Chiefs of Staff caveats, and other factors, USAREUR units lost almost 10 days of preparation time, adding more stress on an already unrealistically ambitious deployment timeline.

This historical assessment of the U.S. deployment in Operation Joint Endeavor will continue in the March–April 2014 issue of *Army Sustainment*. Part II will focus on the actual IFOR deployment and the impact of the logistics forces downsizing on the operation.

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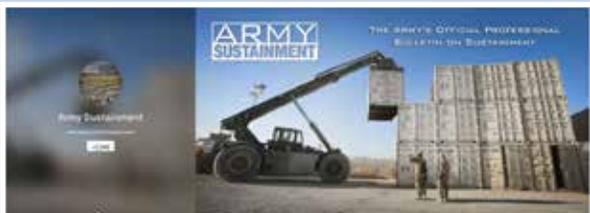
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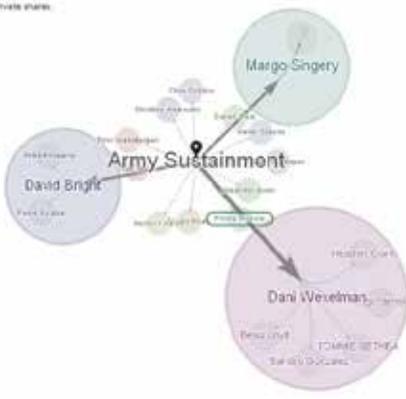
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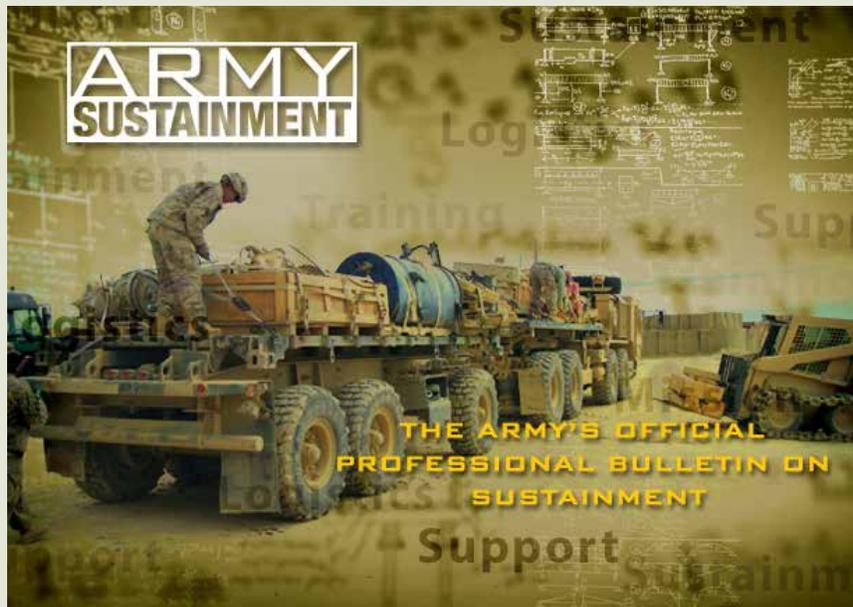
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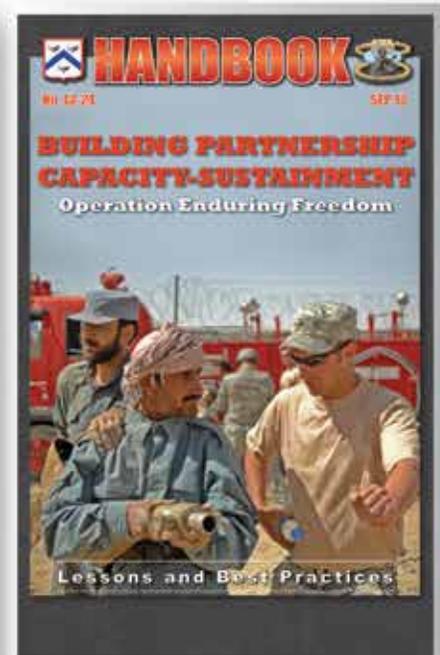
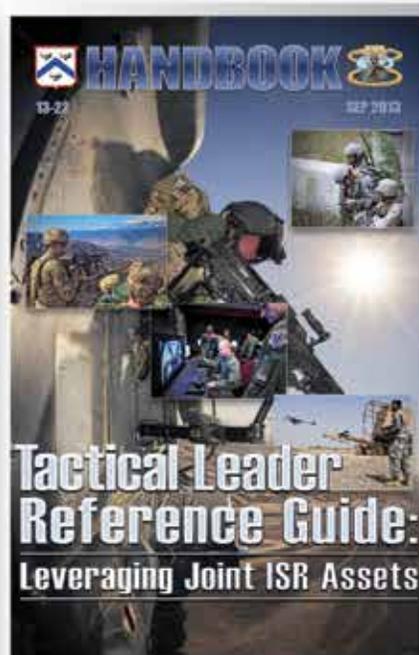
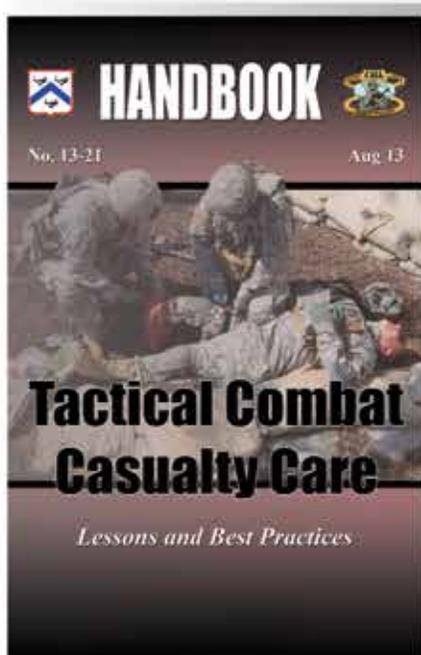
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